2020 Annual Convention
(Virtual Event)

New York
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President’s Message

On behalf of the Chinese Institute of Engineers, Greater New York Chapter, I welcome you to our 2020 convention. This year marks 103 years from the founding of CIE-USA. The convention is a major event of the institute in providing a forum to promote cooperation and experience sharing among fellow scientists and engineers in academia and industry.

It has been a tradition of many years that we honor and celebrate individuals and institutions who have made significant contributions to the field of science and engineering. Previous awardees include Nobel laureates, university presidents and professors, CEOs and technical leaders of Fortune 500 companies. We have decided to skip this celebration because of Covid-19.

The theme of this year’s convention is “Building Resilience against Pandemic through Science and Technology – 通过科学技术建立抵御大流行疾病的复原力”. We have arranged four technical sessions on “Cloud Infrastructure and Information Security”, “Digital Health and Healthcare”, “Artificial Intelligence and Data” and “FinTech Innovation and Applications”.

We have invited two top computer scientists Prof. Wen-mei Hwu and Prof. Philip Yu to be our keynote speakers.

My special thanks go to the Convention Chair and team who have worked diligently for this convention.

I sincerely hope that we will all be inspired by the many excellent presentation.

Sincerely,

Monsong Chen, Ph.D.
President
Chinese Institute of Engineers, Greater New York Chapter
2020 CIE-GNYC Convention Planning Committee

President                  Monsong Chen
Convention Chair          Cheng-Yi Lin
Secretary                 Jeng-Bang Yau
Treasurer                 Fu-Hsuan Sean Chiu
Advisors                  C. Eric Wu, Yew-Huey Liu, Howard Chen
                          I-Hsin Chung, Kun-Lung Wu, Tien-Jen Cheng
                          Keith Kwong Hon Wong, Shu-Ping Chang, Rong Chang
Convention Journal       Cheng-Yi Lin, Maxine Leu
Keynote Committee         Keith Kwong Hon Wong, Monsong Chen, C. Eric Wu
                          Jinjun Xiong, I-Hsin Chung, Kun-Lung Wu
                          Yew-Huey Liu, Sabrina Hsueh, Howard Chen
Technical Program         Zhongshu Gu, Ying Li, Jinjun Xiong
                          Dantong Yu, Sabrina Hsueh, Yew-Huey Liu
Fund Raising              Monsong Chen, Fu-Hsuan Sean Chiu
Website Development       Muqing Liu, Yew-Huey Liu, Maxine Leu
Eventbrite Registration   Jeng-Bang Yau, Maxine Leu, Cheng-Yi Lin
Membership                Jeng-Bang Yau, Cheng-Yi Lin
CIE/USA-GNYC 2020 Annual Convention Program
Virtual Event

Theme: Building Resilience against Pandemic through Science and Technology

Day 1: Saturday, October 17, 2020

1:00 PM - 1:10 PM Opening Remarks
Dr. Monsong Chen (陳孟松) - President, CIE/USA-GNYC

1:10 PM - 2:10 PM Keynote Speech (I)
Prof. Wen-mei Hwu (胡文美)
AMD Jerry Sanders Chair of Electrical and Computer Engineering,
Acting Department Head, Electrical and Computer Engineering,
University of Illinois at Urbana-Champaign
IEEE Fellow, ACM Fellow
“Innovating in the Computational Intelligence Age”

2:10 PM (10 mins) Break

2:20 PM - 3:50 PM Session I – Cloud Infrastructure and Information Security
(90 mins)
Chair – Dr. Zhongshu Gu (顧鐘蔬) - Research Staff Member, IBM Research

Prof. Qi Alfred Chen (陳齊) -
Dept. of Computer Science, University of California, Irvine
“Towards Secure and Robust Autonomy Software in Autonomous Driving”

Prof. Xing Gao (高幸) -
Dept. of Computer and Information Sciences, University of Delaware
“Investigating Security Threats in Linux Containers”

Prof. Fan Zhang (張帆) - Dept. of Computer Science, Duke University
“CanDID: Can-Do Decentralized Identity with Legacy Compatibility,
Sybil-Resistance, and Accountability”

3:50 PM (10 mins) Break
4:00 PM - 5:30 PM (90 mins)

**Session II – Digital Health and Healthcare**

Chair – Dr. Ying Li (李莹)
Associate Director, Health Economics and Outcome Research, Regeneron

Dr. Yugang Jia (贾宇岗) - Data Science Manager, Verily Life Science
“Deep Learning and its Application in Digital Health”

Prof. Xiaoyu Song (宋晓禹) -
Dept. of Population Health Science and Policy, Icahn School of Medicine at Mount Sinai
“Post-Anticoagulant D-dimer as a Highly Prognostic Biomarker of COVID-19 Mortality”

Dr. Peter Hou (侯全益) -
Dept. of Emergency Medicine, Harvard Medical School, Brigham and Women’s Hospital
“Future of Clinical Trials”

Day 2: Sunday, October 18, 2020

1:00 PM - 1:10 PM
**Welcome Remarks**
Dr. Monsong Chen (陈孟松) - President, CIE/USA-GNYC

1:10 PM - 2:10 PM
**Keynote Speech (II)**
Prof. Philip S. Yu (俞士綸)
Distinguished Professor and the Wexler Chair in Information Technology,
Dept. of Computer Science, University of Illinois at Chicago
IEEE Fellow, ACM Fellow
“Broad Learning: A New Perspective on Mining Big Data”

2:10 PM (10 mins)
**Break**

2:20 PM - 3:50 PM (90 mins)

**Session III – Artificial Intelligence and Data**

Chair – Dr. Jinjun Xiong (熊瑾珺)
Program Director, Cognitive Computing, IBM Research

Prof. Yunsì Fei (费运思)
Dept. of Electrical and Computer Engineering, Northeastern University
“Security Vulnerabilities of Deep Neural Network Execution”

Prof. Yiyu Shi (史弋宇)
Dept. of Computer Science and Engineering, University of Notre Dame
“AI for Good: Deep Learning for Congenital Heart Disease Diagnosis and Intervention Planning”

Prof. Tsung-Wei Huang (黄琮蔚)
Dept. of Electrical and Computer Engineering, University of Utah
“A General-purpose Parallel and Heterogeneous Task Programming Systems at Scale”

3:50 PM (10 mins)
**Break**
4:00 PM - 5:30 PM (90 mins)  
**Session IV – FinTech Innovations and Applications**

Chair – Prof. Dantong Yu (于丹彤) -  
*Martin Tuchman School of Management, New Jersey Institute of Technology.*

Dr. Ching-Yung Lin (林清詠) - *Chief Executive Officer, Graphen, Inc.*  
“Utilizing AI Platform to Build Solutions for the Finance Industry”

Mr. Jordan Hu (胡國琳) - *Chief Executive Officer, RiskVal Financial Solutions, LLC*  
“FinTech RiskVal’s Journey”

Dr. Yada Zhu - *Research Staff Member, IBM Research*  
“TBD”

Prof. Danling Jiang (蒋丹凌) -  
*Associate Dean of Research and Faculty Development, College of Business, Stony Brook University*  
“Blockchain and Cryptocurrencies for Investment Portfolios”

Prof. Keli Xiao (肖可瓅) -  
*Decision Analytics, College of Business, Stony Brook University*  
“AI + Finance: Applying Data-Driven Methods in Finance Research”

5:40 PM (10 mins)  
**Closing Remarks**

ACKNOWLEDGEMENT: CIE/USA-GNYC Thanks All Committee Members for Their Dedication and Hard Work That Make This Convention Possible.
Dr. Wen-mei W. Hwu is a Senior Distinguished Research Scientist at NVIDIA and a Professor and the Sanders-AMD Endowed Chair Emeritus of ECE at the University of Illinois at Urbana-Champaign. He co-directed the IBM-Illinois Center for Cognitive Computing Systems Research Center (c3sr.com) 2016-2020 and the Intel-Microsoft Universal Parallel Computing Research Center (UPCRC) from 2006-2008. He served as a Principal Investigator of the NSF Blue Waters Supercomputer Project from 2013 to 2018. For his contributions, he received the ACM SigArch Maurice Wilkes Award, the ACM Grace Murray Hopper Award, the IEEE Computer Society Charles Babbage Award, the ISCA Influential Paper Award, the MICRO Test-of-Time Award, the IEEE Computer Society B. R. Rau Award, the CGO Test-of-Time Award and the Distinguished Alumni Award in CS of the University of California, Berkeley. He is a Fellow of IEEE and ACM.
Day 1 Keynote Speech Topic

Innovating in the Computational Intelligence Age

Wen-mei Hwu
Senior Distinguished Research Scientist, NVIDIA
and
Professor and Sanders-AMD Chair Emeritus
IBM-Illinois Center for Cognitive Computing Systems Research (C3SR)
Department of Electrical and Computer Engineering
University of Illinois at Urbana-Champaign

Abstract
Computational intelligence has been the driving force behind innovations in virtually all fields of the human society in the 21st century. We have been experiencing two very important developments in computing. On the one hand, a tremendous amount of resource has been invested into innovative applications such as autonomous vehicles, recommender systems, and business/political analytics. On the other hand, the industry has been taking a technological path where traditional semiconductor scaling is coming to an end and application performance and power efficiency vary by more than two orders of magnitude depending on their parallelism, heterogeneity, and locality. With more than a decade of relentless advances in compute throughput and memory bandwidth, data movement has become the dominating factor for power, cost and performance of high-valued applications. It will be critical to match the data storage access and movement bandwidth to compute throughput and to locate the compute at where the data is. Much needs to be learned about of algorithms, languages, compilers and hardware architecture in this movement. What are the emerging killer applications that may become the new driver for future technology development? How hard is it to program existing systems to address the date movement issues today? How will we program future systems? How will the convergence of memory and storage devices present further opportunities and challenges in designing new systems? In this talk, I will present some lessons learned as we design the IBM-Illinois C3SR Erudite system at this exciting time.
Dr. Philip S. Yu is a Distinguished Professor and the Wexler Chair in Information Technology at the Department of Computer Science, University of Illinois at Chicago. Before joining UIC, he was at the IBM Watson Research Center, where he built a world-renowned data mining and database department. He is a Fellow of the ACM and IEEE. Dr. Yu is the recipient of ACM SIGKDD 2016 Innovation Award for his influential research and scientific contributions on mining, fusion and anonymization of big data, the IEEE Computer Society’s 2013 Technical Achievement Award for “pioneering and fundamentally innovative contributions to the scalable indexing, querying, searching, mining and anonymization of big data” and the Research Contributions Award from IEEE Intl. Conference on Data Mining (ICDM) in 2003 for his pioneering contributions to the field of data mining. Dr. Yu has published more than 1,400 referred conference and journal papers cited more than 127,000 times with an H-index of 164. He has applied for more than 300 patents. Dr. Yu was the Editor-in-Chiefs of ACM Transactions on Knowledge Discovery from Data (2011-2017) and IEEE Transactions on Knowledge and Data Engineering (2001-2004).
Day 2 Keynote Speech Topic

Broad Learning: A New Perspective on Mining Big Data

Professor Philip S. Yu
Computer Science Department
University of Illinois at Chicago
Chicago, IL 60607

Abstract

In the era of big data, there are abundant of data available across many different data sources in various formats. “Broad Learning” is a new type of learning task, which focuses on fusing multiple large-scale information sources of diverse varieties together and carrying out synergistic data mining tasks across these fused sources in one unified analytic. Great challenges exist on “Broad Learning” for the effective fusion of relevant knowledge across different data sources, which depend upon not only the relatedness of these data sources, but also the target application problem. In this talk we examine how to fuse heterogeneous information to improve mining effectiveness over various applications, including social network, recommendation, mobile health (m-health) and Question Answering (QA).
Convention Chair

Mr. Cheng-Yi Lin (林政毅)
Advisory Product Characterization Engineer
IBM Systems
2070 Route 52, B300,
Hopewell Junction, NY 12533
lincheng@us.ibm.com

Biography:

Mr. Cheng-Yi Lin joined IBM Systems in 2015. He is currently an Advisory Product Characterization Engineer, and he works on 14HP technology to drive delivery of high-performance P9/zThemis server chips. His expertise includes data analysis/mining of in-line electrical signals, product yield, and Wafer Final Test (WFT) results. To drive manufacturing improvement, he provided root cause analysis of Health of Line (HOL) macros, functional yields, and device parameter metrics with vintage, tool/chamber understanding. He established WFT comments, performed data visualization, conducted correlation studies, investigate lot history, and provide yield projections to support production and process controls. Prior to joining IBM, he was employed by UCLA as a Research Assistant in the Duan and Device Research Laboratory. He prototyped and optimized a portable, internet-capable, and low-cost readout circuit for In2O3/RGO nanocomposite gas sensors. He achieved the functions of real-time I-V measurement, online data display, and automated SMS text/LED alert. In 2008, he was a Summer Intern at the Process Integration Engineering Department of Taiwan Semiconductor Manufacturing Company (TSMC) in Hsinchu Taiwan. He optimized halo implant conditions via TCAD simulation for 35HV 13.5V PMOS in 0.35 µm technology.

Mr. Lin received his M.S. degree in Electrical Engineering (EE) from the University of California, Los Angeles (UCLA), his B.S. degree in Power Mechanical Engineering and an M.S. degree in Electronic Engineering from National Tsing-Hua University, Taiwan. He was awarded a Government Scholarship to Study Abroad from the Ministry of Education, Taiwan. He has published three technical papers, filed two patents, several publications through IBM, and conducted numerous EE projects.

In 2016, he joined CIE as a lifetime member. He currently serves as the Vice President of CIE-USA/GNYC. He has been actively involving in the activities of CIE to promote STEM education. In 2019, he was appointed as the Secretary of CIE-USA/GNYC. He was in charge of presentation set-up for the 2016 Asian American Engineer of the Year (AAEOY) and CIE-USA Centennial in 2017. He was selected as an Honorary Member of Talent Net--Epoch Foundation since 2009 and is a member of IEEE.
Building Resilience against Pandemic through Science and Technology

Cloud Infrastructure and Information Security
02:20 – 03:50 PM
Chair
Dr. Zhongshu Gu
Research Staff Member, IBM T. J. Watson Research Center
Dr. Alfred Chen
Assistant Professor, University of California, Irvine
Dr. Xing Gao
Assistant Professor, University of Delaware
Dr. Fan Zhang
Assistant Professor, Duke University

Digital Health and Healthcare
04:00 – 5:30 PM
Chair
Dr. Ying Li
Associate Director, Health Economics and Outcome Research, Regeneron
Dr. Yugang Jia
Data Science Manager, Verily Life Sciences (Formerly: Google Life Sciences)
Dr. Xiaoyu Song
Assistant Professor, Icahn School of Medicine at Mount Sinai
Dr. Peter Hou
Assistant Professor & Emergency Physician, Department of Emergency Medicine, Harvard Medical School

Keynote Speech I
Dr. Wen-mei Hwu
AMD Jerry Sanders Chair of ECE, University of Illinois at Urbana-Champaign
Chinese Institute of Engineers, USA/GNYC
2020 Annual Convention

Webinar
Saturday, October 17, 2020

Session I

Cloud Infrastructure and Information
(2:20 pm - 3:50 pm)

Session Chair

Dr. Zhongshu Gu (顾钟蔬)  Research Staff Member, IBM Research

Session Speakers

Prof. Qi Alfred Chen (陈齐)  Dept. of Computer Science, University of California, Irvine

Prof. Xing Gao (高幸)  Dept. of Computer and Information Sciences, University of Delaware

Prof. Fan Zhang (张帆)  Dept. of Computer Science, Duke University
Session I: Cloud Infrastructure and Information

Session Chair:

Dr. Zhongshu Gu (顾钟蔬)
Research Staff Member
IBM T.J. Watson Research Center
Yorktown Heights, NY 10598
zgu@us.ibm.com

Biography:

Dr. Zhongshu Gu is a Research Staff Member in the Security Research Department at IBM T.J. Watson Research Center. He has broad research interests in cyber security problems, particularly on Systems Security, AI Security, and Cyber Forensics. He has developed novel technologies to protect confidential computation in cloud infrastructures, automate the process of discovering emerging vulnerabilities, and uncover stealthy adversarial behaviors via mining massive forensic evidence. His research findings have appeared in top-tier conferences of computer security and dependable systems, such as ACM CCS, USENIX Security, NDSS, and IEEE/IFIP DSN. Dr. Gu is a recipient of IBM Plateau Invention Achievement Awards, IBM Equity Award, and IBM Manager’s Choice Awards. In addition, he also received the Best Student Paper Award from USENIX Security (2014) and the Best Paper Award from ACM CCS (2015). He earned his Ph.D. from Purdue University and B.S. from Fudan University, both in Computer Science.
Towards Secure and Robust Autonomy Software in Autonomous Driving

Session Speaker:

Dr. Qi Alfred Chen (陈齐)
Assistant Professor
Department of Computer Science
University of California, Irvine
Irvine, CA 92617
alfchen@uci.edu

Biography:

Qi Alfred Chen is an Assistant Professor in the Department of Computer Science at the University of California, Irvine. His research interest spans software security, systems security, and network security. Currently, his research focuses on security problems in autonomous systems and IoT (e.g., autonomous driving and intelligent transportation). His major research theme is addressing security challenges through systematic problem analysis and defense designs. His research has discovered and/or addressed security problems in a wide range of systems such as autonomous driving systems, next-generation transportation systems, smartphone OSes, network protocols, DNS, GUI systems, and access control systems. These works have high impacts in both academic and industry with over 25 research papers in top-tier venues in areas ranging from security, mobile systems, transportation, software engineering, to machine learning; a nationwide USDHS US-CERT alert, and multiple CVEs; over 50 news articles by major news media such as Forbes, Fortune, and BBC News; and email acknowledgments from USDOT, Apple, Microsoft, Comcast, Daimler, etc. Chen received his Ph.D. from the University of Michigan in 2018.

Abstract:

Autonomous Driving (AD) technology has always been an international pursuit due to its significant benefit in driving safety, efficiency, and mobility. Over 15 years after the first DARPA Grand Challenge, its development and deployment are becoming increasingly mature and practical, with some AD vehicles already providing services on public roads (e.g., Google Waymo One in Phoenix and Baidu Apollo Go in China). In AD technology, the autonomy software stack, or the AD system, is highly security-critical: it is in charge of safety-critical driving decisions such as collision avoidance and lane keeping, and thus any security problems in it can directly impact road safety. In this talk, I will describe my recent research that initiates the first systematic effort towards understanding and addressing the security problems in production AD systems. I will be focusing on two critical modules: perception and localization, and talk about how we are able to discover novel and practical sensor/physical-world attacks that can cause end-to-end safety impacts such as crashing into obstacles or driving off road. I will conclude with our current efforts on the defense side, and also discuss future research directions.
Investigating Security Threats in Linux Containers

Session Speaker:

Dr. Xing Gao (高幸)
Assistant Professor
Department of Computer and Information Sciences
University of Delaware
Newark, DE 19716
xgao@udel.edu

Biography:

Xing Gao is an Assistant Professor in the Department of Computer and Information Sciences at the University of Delaware. Xing received his Ph.D. degree in Computer Science from the College of William and Mary at Williamsburg in 2018. His research interests include security, cloud computing, and mobile computing. His works have been published in a series of top-tier CS venues and have resulted in a Linux kernel patch, CVEs, and a US patent.

Abstract:

Container technology provides a lightweight operating system level virtual hosting environment. It has been broadly adopted in various computation scenarios, including edge computing, microservice architecture, serverless computing, and commercial cloud vendors. However, security and privacy concerns still widely exist regarding whether the container features in the Linux kernel can provide the same level of security and isolation guarantees as VMs. In this talk, I will introduce security problems in basic building blocks that enable containerization on Linux, and discuss potential exploitations and consequences.
CanDID: Can-Do Decentralized Identity with Legacy Compatibility, Sybil-Resistance, and Accountability

Session Speaker:

Dr. Fan Zhang (张帆)
Assistant Professor
Department of Computer Science
Duke University
Durham, NC 27708
https://fanzhang.me

Biography:

Dr. Fan Zhang recently received his Ph.D. in Computer Science from Cornell University, advised by Prof. Ari Juels. His research interest is the security, privacy, and scalability of decentralized systems, in particular those enabled by blockchains and trusted execution environments (TEEs). His works have been featured in Forbes, MIT Tech Review, IEEE Spectrum, CoinDesk, BitcoinMagazine, and numerous blockchain news outlets. Several of his works have seen industry uptake. He is a member of IC3 and a recipient of an IBM Ph.D. Fellowship for 2018-2020. Fan Zhang will join the Department of Computer Science at Duke University as an Assistant Professor in 2021.

Abstract:

While decentralized identity (DID) promises to give users greater control over their private data, it burdens users with management of private keys, creating a significant risk of key loss. Existing and proposed approaches also presume the spontaneous availability of a credential-issuance ecosystem, creating a bootstrapping problem. They also omit essential functionality, like resistance to Sybil attacks and the ability to detect misbehaving or sanctioned users while preserving user privacy.

In this talk, I'll introduce CanDID, a platform for practical, user-friendly realization of decentralized identity, the idea of empowering end users with management of their own credentials. CanDID addresses these challenges by issuing credentials in a user-friendly way that draws securely and privately on data from existing, unmodified web service providers. Such legacy compatibility similarly enables CanDID users to leverage their existing online accounts for recovery of lost keys. Using a decentralized committee of nodes, CanDID provides strong confidentiality for user's keys, real-world identities, and data, yet prevents users from spawning multiple identities and allows identification (and blacklisting) of sanctioned users.

I'll present the CanDID architecture and its technical innovations and report on experiments demonstrating its practical performance.
Chinese Institute of Engineers, USA/GNYC
2020 Annual Convention

Webinar
Saturday, October 17, 2020

Session II

Digital Health and Healthcare
(4:00 pm - 5:30 pm)

Session Chair

Dr. Ying Li (李莹)  
Associate Director, Health Economics and Outcome Research, Regeneron

Session Speakers

Dr. Yugang Jia (贾宇岗)  
Data Science Manager, Verily Life Science

Prof. Xiaoyu Song (宋晓禹)  
Dept. of Population Health Science and Policy, Icahn School of Medicine at Mount Sinai

Dr. Peter Hou (侯全益)  
Dept. of Emergency Medicine, Harvard Medical School, Brigham and Women’s Hospital
Session II: Digital Health and Healthcare

Session Chair:

Dr. Ying Li (李莹)
Associate Director
Health Economics and Outcome Research
Regeneron
yl2565@caa.columbia.edu

Biography:

Dr. Ying Li is a medical informatics researcher with 11 years’ experience in real world evidence, data mining, machine learning, predictive analytics and natural language processing. She has recently joined Regeneron as an Associate Director to lead machine learning and nature language processing development for real world healthcare data. Before that, she was Research Staff Member at the Centre of Computational Health of IBM Research and obtained her Ph.D. in Biomedical Informatics from Columbia University in the City of New York in 2015. She has published 20+ peer-reviewed papers in cross-disciplinary top journals (e.g. Nature Biotechnology, Nature Scientific Report, JAMIA, TKDE) and conferences (e.g. AMIA, AAAI, ISoP), and invented 3 patents. She has been elected as the Vice Chair of Knowledge Discovery and Data Mining Work Group (AMIA KDDM-WG), and served in the Program Committee of a variety of conferences.
Deep Learning and its Application in Digital Health

Session Speaker:

Dr. Yugang Jia (贾宇岗)
Data Science Manager
Verily Life Science
Boston, MA 02110
yugang.jia@gmail.com

Biography:

Dr. Yugang Jia is a data science manager in Verily Life Sciences (formerly known as Google Life Sciences), where he joined in 2020 as Head of Data Science for Verily Health Platform business. He obtained his Ph.D. degree in Electrical and Electronic Engineering from University of Bristol, UK, in 2007. He was VP of healthcare data science at Fidelity Investments from 2017-2019 and senior scientist/innovation lead at Philips Research from 2007 to 2017. His research interests are mainly in data science/artificial intelligence and their application in digital health and healthcare informatics. Dr. Jia has worked with leading physicians, Accountable Care Organizations (ACO), health systems and payers to accelerate the adoption of data science and machine learning in various clinician and patient decision support applications and has more than two dozens of pending/granted patents in the field of healthcare analytics. He was on the technical program committee of the International Conference on Healthcare Informatics (ICHI) in 2015, 2016 and 2017.

Abstract:

Total joint replacement (TJR) is one of the most commonly performed, fast-growing elective surgical procedures in the United States. Given its huge volume and cost variation, it has been regarded as one of the top opportunities to reduce health care cost by the industry. Identifying patients with a high chance of undergoing TJR surgery and engaging them for shopping is the key to success for plan sponsors. In this talk, we experimented with different machine learning algorithms and developed a novel deep learning approach to predict TJR surgery based on a large commercial claims dataset. Our results demonstrated that the performance of the gated recurrent neural network is better than other methods regardless of data representation methods (multi-hot encoding or embedding). Additional pooling mechanisms can further improve the performance of deep learning models for our case.
Post-Anticoagulant D-dimer as a Highly Prognostic Biomarker of COVID-19 Mortality

Session Speaker:

Dr. Xiaoyu Song (宋晓禹)
Assistant Professor
Department of Population Health Science and Policy
Icahn School of Medicine at Mount Sinai
xiaoyu.song@mountsinai.org

Biography:

Dr. Xiaoyu Song is an Assistant Professor of Biostatistics in the Department of Population Health Science and Policy at Icahn School of Medicine at Mount Sinai. She obtained her DrPH degree in Biostatistics from Columbia University in the City of New York in 2015. Her research interests are mainly in developing statistical methods for genomics and other complex biological, medical and public health data. Dr. Song is an active member of the NCI's Clinical Proteomic Tumor Analysis Consortium (CPTAC) to accelerate our understanding of the proteogenomics basis of cancer. She have developed many statistical tools for integrative analysis of multi-omic data, high-dimensional data and quantile regression, and have authored many studies published in top journals like Cell to apply these tools for association, network, integration and prediction analysis for understanding the genomic basis of cancer and other complex human diseases.

Abstract:

Importance: Clinical biomarkers that accurately predict mortality are needed for the effective management of patients with severe COVID-19 illness. Objective: To determine whether D-dimer levels after anticoagulation treatment is predictive of in-hospital mortality. Design: Retrospective study using electronic health record data. Setting: A large New York City hospital network serving a diverse, urban patient population. Participants: Adult patients hospitalized for severe COVID-19 infection who received therapeutic anticoagulation for thromboprophylaxis between February 25, 2020 and May 31, 2020. Exposures: Mean and trend of D-dimer levels in the 3 days following the first therapeutic dose of anticoagulation. Main Outcomes: In-hospital mortality versus discharge. Results: 1835 adult patients (median age, 67 years [interquartile range, 57-78]; 58% male) with PCR-confirmed COVID-19 who received therapeutic anticoagulation during hospitalization were included. 74% (1365) of patients were discharged and 26% (430) died in hospital. The study cohort was divided into four groups based on the mean D-dimer levels and its trend following anticoagulation initiation, with significantly different in-hospital mortality rates (p<0.001): 49% for the high mean-increase trend (HI) group; 27% for the high-decrease (HD) group; 21% for the low-increase (LI) group; and 9% for the low-decrease (LD) group.
Post-Anticoagulant D-dimer as a Highly Prognostic Biomarker of COVID-19 Mortality

Abstract: (Continued)

Using penalized logistic regression models to simultaneously analyze 67 variables (baseline demographics, comorbidities, vital signs, laboratory values, D-dimer levels), post-anticoagulant D-dimer groups had the highest adjusted odds ratios (ORadj) for predicting in-hospital mortality. The ORadj of in-hospital death among patients from the HI group was 6.58 folds (95% CI 3.81-11.16) higher compared to the LD group. The LI (ORadj: 4.06, 95% CI 2.23-7.38) and HD (ORadj: 2.37; 95% CI 1.37-4.09) groups were also associated with higher mortality compared to the LD group. Conclusions and Relevance: D-dimer levels and its trend following the initiation of anticoagulation have high and independent predictive value for in-hospital mortality. This novel prognostic biomarker should be incorporated into management protocols to guide resource allocation and prospective studies for emerging treatments in hospitalized COVID-19 patients.
Future of Clinical Trials

Session Speaker:

Dr. Peter Hou (侯全益醫師)
Assistant Professor
Department of Emergency Medicine
Harvard Medical School
Brigham and Women’s Hospital
Boston, MA 02115
phou@bwh.harvard.edu

Biography:

Dr. Hou is an emergency physician and critical care specialist practicing in both the emergency department (ED) and surgical intensive care unit (ICU). His clinical research interests consist of patient care improvement processes for critically ill ED patients being admitted to the ICUs, sepsis, acute respiratory distress syndrome (ARDS), and COVID-19.

Since 2008 from the ED, he was Site-PI for the “Protocolized Care for Early Septic Shock” (ProCESS) trial to evaluate the role of protocolized, quantitative resuscitation treatments in the management of sepsis and septic shock and co-authored “A Randomized Trial of Protocol-Based Care for Early Septic Shock” in New England Journal of Medicine (NEJM). Additionally, he was the Site-PI for three NIH-sponsored ProCESS ancillary studies evaluating the microcirculation and the long-term outcomes of acute kidney injury and host immune response. Furthermore, he was the Site-PI for NIH-sponsored Procalcitonin Antibiotic Consensus Trial (ProACT) and co-authored NEJM article “Procalcitonin-Guided Use of Antibiotics for Lower Respiratory Tract Infection”.

Since 2009 from the surgical ICU, he was the Site-PI for the US Critical Illness and Injury Trial Group Lung Injury Prevention Study, which derived and validated the Lung Injury Prediction Score in patients at risk for ARDS. In 2014, he became the Co-Lead Investigator for the NIH NHLBI Acute Lung Injury Group of New England Clinical Center and a Steering Committee member of the NIH NHLBI Prevention and Early Treatment of Acute Lung injury (PETAL) Network. Since its inception, he was the Site-PI for the PETAL’s Reevaluation Of Systemic Early Neuromuscular Blockade (ROSE) trial and co-authored the NEJM article “Early Neuromuscular Blockade in the Acute Respiratory Distress Syndrome”. In addition, he was the Site-PI for the NIH-sponsored ancillary study to the ROSE trial called PRIMROSE and the Crystalloid Liberal or Vasopressors Early Resuscitation in Sepsis (CLOVERS). He was the Site-PI for the Outcomes Related to COVID-19 Treated With Hydroxychloroquine Among In-patients With Symptomatic Disease (ORCHID) trial, which was halted by the Data Safety Monitoring Board that found neither benefit nor harm. Recently, he was a Site-PI and co-authored a Journal of American Medical Association article “Effect of Ascorbic Acid, Corticosteroids, and Thiamine on Organ Injury in Septic Shock: The ACTS Randomized Clinical Trial”.

22
Future of Clinical Trials

Biography: (Continued)


Currently, he is a core member of the hospital’s Sepsis Task Force and COVID-19 protocol committee. He is the Research Director for the Brigham and Women’s Hospital Division of Emergency Critical Care Medicine co-leads the Brigham Critical Care Collaborative and Consortium.

List of Published Work from PubMed: My Bibliography

He is currently the New England Chapter President of North American Taiwanese Medical Association (NATMA).

Abstract:

Along with clinical medicine, clinical trials in medicine has undergone some major transformations due to the COVID-19 pandemic. With the mandate of social distancing, an exponential increase in the use of telemedicine has been implemented to care for patients. Similarly, telehealth has been implemented and being used for research facilitation, including screening, recruitment, informed consent, data collection, follow-up, and reducing attrition and increasing engagement. The objective of this presentation is to describe how clinical trials were carried out in the past, and with telehealth, how they are being carried out in the present and will be like in the future with virtual clinical trials.
Building Resilience against Pandemic through Science and Technology

Keynote Speech II
Dr. Philip Yu
Distinguished Professor,
University of Illinois at Chicago

The Speakers

Artificial Intelligence and Data
02:20 – 03:50 PM

Chair
Dr. Jinjun Xiong
Program Director, Cognitive Computing Systems Research, IBM T. J. Watson Research Center

Dr. Yunsi Fei
Professor, Northeastern University

Dr. Yiyu Shi
Associate Professor,
University of Notre Dame

Dr. Tsung-Wei Huang
Assistant Professor,
University of Utah

Chair
Mr. Jordan Hu
Chief Executive Officer,
RiskVal Financial Solutions, LLC

Dr. Yada Zhu
Research Staff Member, T. J. Watson Research Center, IBM

Dr. Danling Jiang
Associate Dean of Research and Faculty Development, College of Business, Stony Brook University

Dr. Keli Xiao
Associate Professor of Decision Analytics, College of Business, Stony Brook University

FinTech Innovations and Applications
04:00 – 5:30 PM

Chair
Prof. Dantong Yu
Associate Professor,
Martin Tuchman School of Management, New Jersey Institute of Technology

Dr. Ching-Yung Lin
CEO, Graphen, Inc.
Chinese Institute of Engineers, USA/GNYC
2020 Annual Convention

Webinar
Sunday, October 18, 2020

Session III

Artificial Intelligence and Data
(2:20 pm - 3:50 pm)

Session Chair

Dr. Jinjun Xiong (熊瑾珺)
Program Director, Cognitive Computing,
IBM Research

Session Speakers

Prof. Yunsi Fei (费运思)
Dept. of Electrical and Computer Eng.,
Northeastern University

Prof. Yiyu Shi (史弋宇)
Dept. of Computer Science and Eng.,
University of Notre Dame

Prof. Tsung-Wei Huang (黄琮蔚)
Dept. of Electrical and Computer Eng.,
University of Utah
Session III: Artificial Intelligence and Data

Session Chair:

Dr. Jinjun Xiong (熊瑾珺)
Program Director
Cognitive Computing Systems Research
IBM T.J. Watson Research Center
Yorktown Heights, New York, 10598
jinjun@us.ibm.com

Biography:

Dr. Jinjun Xiong is currently the Program Director for Cognitive Computing Systems Research at the IBM Thomas J. Watson Research Center. He founded and co-directs the IBM-Illinois Center for Cognitive Computing Systems Research (C3SR.com), where he conducts cutting-edge AI systems research. He was also a founding PI for the IBM Smarter Energy Research Institute (SERI) with deep collaboration with a number of large electrical utility companies world-wide. Prior to that, the technologies he developed has been implemented inside IBM’s flagship EinsTimer/EinsStat tools, design and test methodologies used for designing multi-generations of IBM’s high performance ASICs and Processors. He has published more than 100s peer-reviewed international conferences, including top AI conferences and systems conferences. His publication won five Best Paper Awards and eight Nominations for Best Paper Awards. He also led teams to win top awards for various international research competitions, including the recent double championships for the DAC’19 Systems Design Contest on object detection as implemented on low-power FPGA and GPU devices.
Security Vulnerabilities of Deep Neural Network Execution

Session Speaker:

Dr. Yunsi Fei (费运思)
Professor
Department of Electrical and Computer Engineering
Northeastern University
Boston, MA
y.fei@northeastern.edu

Biography:

Dr. Yunsi Fei is a Professor of Electrical and Computer Engineering at Northeastern University, Boston, and directs the Northeastern University Energy-efficient and Secure System (NUEESS) laboratory. She received her BS and MS degrees in Electronic Engineering from Tsinghua University, China, in 1997 and 1999, respectively, and her PhD degree in Electrical Engineering from Princeton University in 2004. Her recent research focuses on hardware-oriented security and trust, side-channel attack analysis and countermeasures, and secure computer architecture and heterogeneous systems. She was a recipient of National Science Foundation CAREER award. She has been on the TPCs of many conferences in hardware security, computer architecture, and EDA, including CHES, HOST, ISCA, HPCA, DAC, ICCAD, ISLPED, etc. She was a general co-chair for CHES (International Conference on Cryptographic Hardware and Embedded Systems) 2019. Currently she is the site director for an NSF Industry University Research Cooperation Center - Center for Hardware and Embedded System Security and Trust (CHEST), and actively engaging with industry partners to address security needs arising in their products and applications.

Abstract:

Security of deep neural network (DNN) inference engines, i.e., trained DNN models on various platforms, has become one of the biggest challenges in deploying artificial intelligence in domains where privacy, safety, and reliability are of paramount importance. In addition to classic software attacks such as model inversion and evasion attacks, recently a new attack surface—implementation attacks which include both passive side-channel attacks and active fault injection attacks—is arising, targeting implementation peculiarities of DNNs to breach their confidentiality and integrity. This talk presents several novel passive attacks to reverse engineer the valuable DNN models and an active attack which results in image misclassification. Our new vector of attacks are first of their kind and reveal a largely under-explored attack surface of DNN inference engines. Insights gained during attack exploration will provide valuable guidance for effectively protecting DNN execution against IP stealing and integrity violations.
AI for Good: Deep Learning for Congenital Heart Disease Diagnosis and Intervention Planning

Session Speaker:

Dr. Yiyu Shi (史弋宇)
Associate Professor
Department of Computer Science and Engineering
University of Notre Dame
Notre Dame, IN, 46556
yshi4@nd.edu

Biography:

Dr. Yiyu Shi is currently an associate professor in the Department of Computer Science and Engineering at the University of Notre Dame, the site director of National Science Foundation Industry/University Cooperative Research Center on Alternative and Sustainable Intelligent Computing, and a visiting scientist at Boston Children’s Hospital, the primary pediatric program of Harvard Medical School. He received his B.S. in Electronic Engineering from Tsinghua University, Beijing, China in 2005, the M.S and Ph.D. degree in Electrical Engineering from the University of California, Los Angeles in 2007 and 2009 respectively. His current research interests focus on hardware intelligence and biomedical applications. In recognition of his research, more than a dozen of his papers have been nominated for or awarded as the best paper in top conferences. He was also the recipient of various awards including Japan Society for the Promotion of Science Faculty Invitation Fellowship, Humboldt Research Fellowship, IEEE St. Louis Section Outstanding Educator Award, St. Louis Academy of Science Innovation Award, Missouri S&T Faculty Excellence Award, NSF CAREER Award, IEEE Region 5 Outstanding Individual Achievement Award, the Air Force Summer Faculty Fellowship, and IEEE Computer Society TCVLSI Mid-Career Research Achievement Award. He is on the executive committee of ACM SIGDA, deputy editor-in-chief of IEEE VLSI CAS Newsletter, and an associate editor of various IEEE and ACM journals.

Abstract:

Congenital heart disease (CHD) is the most common type of birth defects, which occurs 1 in every 110 births in the United States. CHD usually comes with severe variations in heart structure and great vessel connections that require highly specialized domain knowledge and time-consuming manual effort to diagnose. In addition, although cardiac surgeries can effectively tackle CHD and lead to decreased mortality rate of newborns with CHD, most of the surgeries are only conducted in large cities due to the need for complex infrastructures, equipment, and highly skilled surgeons. In this talk, I will demonstrate how artificial intelligence can help in the diagnosis and treatment of CHDs. I will also present how it enabled the world’s the first surgical telemonitoring of CHD.
A General-purpose Parallel and Heterogeneous Task Programming Systems at Scale

Session Speaker:

Dr. Tsung-Wei Huang (黃琮蔚)
Assistant Professor
Department of Electrical and Computer Engineering
University of Utah
Salt Lake City
tsung-wei.huang@utah.edu

Biography:

Dr. Tsung-Wei Huang is an assistant professor in the Department of Electrical and Computer Engineering (ECE) at the University of Utah. His research focuses on making parallel and heterogeneous computing easier to handle. Dr. Huang received his PhD from the University of Illinois at Urbana-Champaign (UIUC) in 2017. During the entire career, he has been building software from the ground up with extensive research interests in parallel processing, computer-aided design, and machine learning. He is the stakeholder of several award-winning software and the recipient of the 2019 ACM/SIGDA Outstanding Ph.D. Dissertation Award.

Abstract:

Modern scientific computing applications rely on a heterogeneous mix of computational resources that comprises manycore CPUs and GPUs to achieve transformational performance milestones. These milestones are not possible without the aid of high-level programming systems and runtimes to assist in the implementation complexity. Decades of research in high productivity computing has yielded methodologies and languages that offer either programmer productivity or performance scalability, but rarely both simultaneously. The primary goal of this talk is thus to address the long-standing question of "how can we make it easier for developers to quickly write parallel and heterogeneous programs with high performance and simultaneous high productivity?" I will talk about a general-purpose task programming system we are developing to streamline the creation of parallel applications on CPUs and GPUs. Compared with existing frameworks, our system is very cost-efficient in exploiting high degrees of parallelism, including dynamic control flow and irregular computational patterns. On a particular circuit simulation workload, we achieved up to 5× speed-up over industrial-strength systems and boosted the programming productivity by 100×. I will also present our recent effort on accelerating a large-scale machine learning problem that has received the champion award in the 2020 IEEE HPEC Graph Challenge.
Chinese Institute of Engineers, USA/GNYC
2020 Annual Convention

Webinar
Sunday, October 18, 2020

Session IV

FinTech Innovations and Applications
(4:00 pm - 5:30 pm)

Session Chair

Prof. Dantong Yu (于丹彤)  
Martin Tuchman School of Management,  
New Jersey Institute of Technology

Session Speakers

Dr. Ching-Yung Lin (林清詠)  
Chief Executive Officer,  
Graphen, Inc.

Mr. Jordan Hu (胡國琳)  
Chief Executive Officer,  
RiskVal Financial Solutions, LLC

Dr. Yada Zhu  
Research Staff Member, IBM Research

Prof. Danling Jiang (蒋丹凌)  
Associate Dean of Research and Faculty  
Development, College of Business,  
Stony Brook University

Prof. Keli Xiao (肖可璡)  
Director, Blockchain Business Lab,  
College of Business,  
Stony Brook University
Session IV: FinTech Innovations and Applications

Session Chair:

Dr. Dantong Yu (于丹彤)
Associate Professor
Martin Tuchman School of Management
New Jersey Institute of Technology
Newark, NJ 07102-1982, USA
dantong.yu@njit.edu

Biography:

Dantong Yu is an Associate Professor in Martin Tuchman School of Management, and Graduate Program Director of Ph.D. in Business Data Science. He received a BS degree in computer science from Peking University and a Ph.D. degree in Computer Science from University at Buffalo. He joined Martin Tuchman School of Management at New Jersey Institute of Technology in 2016. He also holds guest appointment in the Department of Computer Science and Mathematics at BNL. He founded and led the Computer Science Group in BNL between 2009 and 2016. He developed the data management tool that thousands of physicists use. His research interests include data mining, machine learning, data network and storage. He has published 70 papers in leading technical journals and conferences. He has served on the review panels for NSF, DOE Early Career Investigator and DOE SBIR/STTR. He is the PC member of KDD, ICDM, ICDE, ICCCN, HiPC, and ICPADS.
Utilizing AI Platform to Build Solutions for the Finance Industry

Session Speaker:

Dr. Ching-Yung Lin (林清詠)
CEO
Graphen, Inc.
500 Fifth Ave. #2420
New York, NY 10110
cylin@graphen.ai

Biography:

Dr. Ching-Yung Lin is the CEO of Graphen, Inc. Headquartered in New York, Graphen has subsidiaries in Taipei, Hong Kong, Beijing, and Singapore. Before June 2017, he was the IBM Chief Scientist (specialized in Graph Computing), leading IBM's AI products R&D in the Financial Industry. He has been an Adjunct Professor in Columbia University since 2005 and was an Affiliate Associate Professor at the Univ. of Washington 2003-2009 and an Adjunct Professor at NYU in 2014. Dr. Lin was named an IEEE Fellow in Nov 2011. Inspired by human’s brain structure being a network of billions to trillions of nodes and edges, Dr. Lin's research interest has been on realizing Artificial Intelligence of full brain functioning through graph-based technologies. He is an author of 180+ publications and 40+ awarded patents, with 10,000+ citations. Since 2003, Dr. Lin has led several large international projects of 30 ~150 researchers, including then the largest US social media analysis project in 2012-2015. Dr. Lin was a keynote or plenary speaker in 50+ conferences, including being a co-panelist with the White House Chief Data Scientist in the interim annual American Medical Association conference in 2015. He was invited to speak in US Federal Reserve, European Central Bank, FINRA, and led projects in the largest banks in US, China, Europe, and Russia. He was the Chair of IEEE CAS Multimedia TC and the General Chair of IEEE Intl. Conf. on Multimedia and Expo 2009. His webpage was the Top 1 search result of Baidu search on Big Data Analytics 2015-2017. Dr. Lin’s works won 7 best paper awards and was featured 4 times by the BusinessWeek magazine, including being the Top Story of the Week in May 2009. In 2010, IBM Exploratory Research Career Review selected Dr. Lin as a researcher in the category of "most likely to have the greatest scientific impact for IBM and the world.” His recent work of “Live Monitoring of COVID-19 Virus Evolution” was featured in media in more than 40 countries.
Utilizing AI Platform to Build Solutions for the Finance Industry

Abstract:

Human brain is a giant network of 100B nodes and 700T edges. Based on the graph concepts, Graphen is advancing the next-generation AI foundation, Ardi, with full functionality of brains. The Ardi system includes Memory/Database, Analytics, Machine Learning, Machine Reasoning, Strategy, Explanation, and Pipeline, and is on its way to add Sense and Conception. Built upon Ardi’s strength in risk prediction, Graphen developed and deployed various advanced AI Finance, Medical, Security, and Automobile solutions. For instance, in the Finance Industry, we have deployed Advanced Insider Threat Monitoring and Detection, Fraud Detection, Core Banking Monitoring, Anti-Money Laundering, and Non-Performing Loan Prediction in the largest banks in New York, Shanghai, Hong Kong, and Taipei. In this talk, I shall introduce Graphen Ardi AI foundation, as well as its specific applications in banking, asset management, and insurance industries.
FinTech RiskVal’s Journey

Session Speaker:

Mr. Jordan Hu (胡國琳)
Chief Executive Officer
RiskVal Financial Solutions, LLC
131 West 33rd Street 5th floor
New York, NY 10001
Jordan.Hu@RiskVal.com

Biography:

Mr. Jordan Hu is a successful entrepreneur recognized for his achievement in the US and Taiwan. However, behind every single one of those successes is a sizable obstacle that has tested and shaped Jordan's personality.

After receiving his BS degree in applied math from National Tsing Hua University, he came to US to obtain a master degree in computer science from New Jersey Institute of Technology. He started his Wall Street career at Salomon Brother in 1989, which was considered the most profitable fixed income investment banking firm. He left Salomon in 1998, and started his entrepreneur career as he foresees the FinTech opportunities. In 2001, he founded RiskVal Financial Solutions, LLC as a pioneer in Software as a Service (SaaS) FinTech firm. The company has grown into a globally recognized Fixed Income Pre-Trade Analytics and risk management firm.

The company has received numerous awards for its products and services:

- RiskVal Won the Most Innovative Award from Finextra in 2009. (here)
- RiskVal Ranked #1 in 2009 Risk Waters for Best Credit Solution. (here)
- RiskVal Won Custody Risk 2015’s “Risk Technology Vendor of the Year” award. (here)
- RiskVal Won Waters Sell-Side Technology’s 2015 “Best Sell-Side Market Risk Product” award. (here)
- RiskVal Ranked top 50 since 2015 RiskTech 100 Award. (here)
- RiskVal Won SmartCEO's 2015 ~ 2017 Future 50 Award. (here)
- 2017 Taiwanese Overseas Entrepreneur Award (here)
- RiskVal Won Waters Sell-Side Technology’s 2018 “Best Sell-Side Market Risk Product” award. (here)
- 2018 Mr. Jordan Hu was listed as “Top 30 Influencers from NJIT” (here)
FinTech RiskVal’s Journey

Abstract:

RiskVal’s primary focus is in creating and running top-tier Fixed Income and Credit Derivative front office trading analysis and risk management systems. RiskVal’s sustained competitive advantage is in continuously earning a close relationship with elite traders in top Wall Street and City houses. RiskVal financial engineering captures the very latest intellectual property of the most current issues in fixed income and credit trading in delivering real-time analytics tailored and refined to the exact needs of the trading floor.
Blockchain and Cryptocurrencies for Investment Portfolios

**Session Speaker:**

**Dr. Danling Jiang (蒋丹凌)**  
Professor of Finance  
Associate Dean of Research and Faculty Development  
Co-Director, Blockchain Business Lab  
Co-Director, Center of Entrepreneurial Finance  
College of Business  
Stony Brook University  
Stony Brook, NY 11796  
danling.jiang@stonybrook.edu

**Biography:**

Dr. Danling Jiang is a Professor of Finance, Associate Dean of Research and Faculty Development, the Co-Director of Blockchain Business Lab, and the Co-Director of Center of Entrepreneurial Finance at the College of Business, Stony Brook University. Her research involves studying investments, Blockchain and digital asset management, corporate finance, and financial decision making by integrating economics, psychology, political science, and sociology into finance. Her work has been published in many leading academic and practitioner journals in finance, economics, management, accounting, and decision making. She serves in different roles for various academic journals, book publishers, funding agencies, academic conferences and associations, and nonprofits. She received a Ph.D. in finance from the Ohio State University.

**Abstract:**

The talk overviews the applications of blockchain technology in finance and the roles of cryptocurrencies in diversifying investment portfolios. The discussion integrates the current macro-economic background to highlight the value of cryptocurrencies for portfolio management. The talk also introduces the mission and scope of the Center of Entrepreneurial Finance and Blockchain Business Lab in helping innovations and startups in the area of blockchain business applications.
Topic AI + Finance: Applying Data-Driven Methods in Finance Research

Session Speaker:

Dr. Keli Xiao (肖可璞)
Associate Professor of Decision Analytics
Director, Blockchain Business Lab
College of Business
Stony Brook University
Stony Brook, NY 11796
keli.xiao@stonybrook.edu

Biography:

Dr. Keli Xiao is an Associate Professor of Decision Analytics and the Director of Blockchain Business Lab at the College of Business, Stony Brook University. He received his Ph.D. degree in management (finance) from Rutgers University. Dr. Xiao’s research interests include business analytics, data mining, real estate/urban computing, economic bubbles, and asset pricing. His research has appeared in many refereed journals and conference proceedings, such as Real Estate Economics, IEEE Transactions on Knowledge and Data Engineering, ACM Transactions on Knowledge Discovery from Data, ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), etc. He is an Associate Editor of the IEEE Access and has served on program committees of numerous conferences, such as AAAI, IJCAI, KDD, ICDM, SDM, CIKM, etc. He is a senior member of the ACM and the IEEE.

Abstract:

This talk discusses some potential trends of using AI and data-driven approaches to address research problems in FinTech, such as the cryptocurrency market behavior analysis, the impact of Blockchain techniques on equity market behaviors, etc. Some on-going projects in the Blockchain Business Lab at Stony Brook will also be introduced.
CIE-USA ANNUAL AWARDS

The CIE Distinguished Service Award is bestowed upon an outstanding engineer, scientist, or technologist who is of Chinese origin and has made significant contributions toward science technology, industry, or economic development of a country or a community.

The CIE Achievement Award is presented to any person of Chinese origin (or any other origin whose contribution benefited the Chinese Society) who has made distinguished achievement in science, engineering or technology.

The Institute Service Award recognizes an individual who has performed outstanding service to the Institute.

Award Winners

The award winners for the past years are listed as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Award Winner</th>
<th>姓 名</th>
<th>Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1957</td>
<td>Mr. K.C. Li</td>
<td>李國欽</td>
<td>Leadership in production of strategic metals, i.e. Tungsten, Tantalum, Molybdenum, Columbium, Hafnium, Zirconium and their alloys.</td>
</tr>
<tr>
<td>1958</td>
<td>Dr. Tsung Dao Lee</td>
<td>李政道</td>
<td>Co-authors on three papers on &quot;Nonconservation of parity.&quot; Co-winners of Nobel Prize of physics in 1957.</td>
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<tr>
<td></td>
<td>Dr. Chen-Ning Yang</td>
<td>楊振寧</td>
<td></td>
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<tr>
<td></td>
<td>Dr. Chien-Shuing Wu</td>
<td>吳建雄</td>
<td></td>
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<tr>
<td></td>
<td>Mr. Ieoh-Ming Pei</td>
<td>貝聿銘</td>
<td></td>
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<tr>
<td>1959</td>
<td>Mr. Wen-Tsing Chow</td>
<td>周文俊</td>
<td>Inertial navigation and guidance system for missiles and space vehicles.</td>
</tr>
<tr>
<td></td>
<td>Prof. Lan-Jen Chu</td>
<td>朱蘭成</td>
<td>Leading authority on microwave and special antennas.</td>
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<tr>
<td></td>
<td>Prof. Yu-Hsiu Ku</td>
<td>顧毓琇</td>
<td>Leading engineer mathematician whose analysis of non-linear systems worldly known.</td>
</tr>
<tr>
<td>1960</td>
<td>Dr. Kuan-Han Sun</td>
<td>孫觀漢</td>
<td>Leading engineer and physicist in nucleonics field. Helped setting up the nuclear engineering laboratory in Hsin-Chu, Taiwan.</td>
</tr>
<tr>
<td></td>
<td>Prof. Ju-Chin Chu</td>
<td>朱汝瑾</td>
<td>Well known consulting engineer and scientist. Unit operations in process development and engineering.</td>
</tr>
<tr>
<td></td>
<td>Dr. Chao C. Wang</td>
<td>王兆振</td>
<td>Research in solid state microwave electronics, thermionic emission and microwave plasma interaction.</td>
</tr>
<tr>
<td>1961</td>
<td>Prof. Tung-Yen Lin</td>
<td>林岡枝</td>
<td>Leading authority on Prestressed Concrete.</td>
</tr>
<tr>
<td></td>
<td>Dr. Wen-Yuan Pan</td>
<td>潘文淵</td>
<td>Contribution to the Ultra-high frequency technique, leading to the implementation of wider field of television service.</td>
</tr>
<tr>
<td></td>
<td>Dr. Luke C. L. Yuan</td>
<td>袁家駒</td>
<td>Well-known figure on design, construction and experiments on high energy accelerators.</td>
</tr>
<tr>
<td>Year</td>
<td>Name</td>
<td>Contributions</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1962</td>
<td>Prof. David K. Cheng</td>
<td>Advanced research on antenna and phased array.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dr. Thomas T. H. Lee</td>
<td>Research and development of high-power vacuum interrupters for the power industry.</td>
<td></td>
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<tr>
<td></td>
<td>Prof. Shih I Pai</td>
<td>Theories on magnetogasodynamics and plasma dynamics.</td>
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<tr>
<td>1963</td>
<td>Prof. Shu-Tien Li</td>
<td>Well-known author and consulting engineer. Also his development work on Unified Energy-Matrix Analysis.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prof. Chia Chiao Lin</td>
<td>Contributions to the theory of hydrodynamic stability and theory of turbulence.</td>
<td></td>
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<tr>
<td>1964</td>
<td>Dr. Kern K. N. Chang</td>
<td>Outstanding theoretical and experimental research on electro-beam focusing and on parametric and tunnel diode devices.</td>
<td></td>
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<tr>
<td></td>
<td>Prof. H. Y. Fan</td>
<td>Achieved international prominence in searching for the essential physical characteristics of semiconductors.</td>
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<tr>
<td></td>
<td>Mr. T.C. Tsao</td>
<td>Engineer, scientist, author and administrator of international renown. Fellow IEEE, Fellow AAS, MCIE, MIKE (United Kingdom), MASME, MIM, etc. Ardent supporter and past president of CIE.</td>
<td></td>
</tr>
<tr>
<td>1965</td>
<td>Prof. Ven-te Chow</td>
<td>World-known contribution in open-channel hydraulics.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prof. Y. C. Fung</td>
<td>Authority on aeroelasticity and solid state mechanics.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prof. Choh-Hao Li</td>
<td>World famous bio-chemist, first isolated ACTH, then TSH, recently completed analysis of HGH (human growth hormone).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mr. T.C. Tsao</td>
<td>Engineer, scientist, author and administrator of international renown. Fellow IEEE, Fellow AAS, MCIE, MIKE (United Kingdom), MASME, MIM, etc. Ardent supporter and past president of CIE.</td>
<td></td>
</tr>
<tr>
<td>1966</td>
<td>Prof. C. J. Huang</td>
<td>Research in interphase mass transfer mechanisms.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prof. Tung-Hua Lin</td>
<td>Authority on elastic and plastic behavior of structures to dynamic load.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dr. P. K. Tien</td>
<td>Outstanding research on parametric amplifiers and gas lasers.</td>
<td></td>
</tr>
<tr>
<td>1967</td>
<td>Prof. Arthur W. Lo</td>
<td>Formation of some of the fundamental principles of digital electronics and development of a number of semiconductor and magnetic digital devices and circuits.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dr. Wellington H. T. Loh</td>
<td>Leading authority on dynamics and thermodynamics of re-entry and planetary entry.</td>
<td></td>
</tr>
<tr>
<td>1968</td>
<td>Prof. Chih-Bing Ling</td>
<td>Researcher in the field of applied mechanics and mathematics.</td>
<td></td>
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<tr>
<td></td>
<td>Prof. Chia-Shun Yih</td>
<td>Recognized for his achievements on the theory of nonhomogeneous stratified flow.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mr. Edward K. Nieh</td>
<td>Instrumental in the formulation of the Chinese Institute of Engineers, New York, Inc.</td>
<td></td>
</tr>
<tr>
<td>1969</td>
<td>Dr. Morgan C. Y. Sze</td>
<td>In recognition for his work in the field of Chemical Engineering.</td>
<td></td>
</tr>
</tbody>
</table>
Building Resilience against Pandemic through Science and Technology

Dr. An Wang 王安 Development of computer systems and electronic calculators.

1970 Dr. Way Dong 何惠棠 For his contribution in the field of digital systems.

1971 Mr. Walter Fei 費驊 For his leadership and outstanding services in engineering management.

Dr. Hsuan Yeh 葉玄 For his outstanding contribution in the field of fluid and analytical mechanics.

Dr. Utah Tsao 曹友德 For his creative contribution in chemical process design.

Mr. Benjamin K. Cheng 鄭國賓 Leadership and service to the Chinese Engineering Society.

1972 Dr. T. W. Liao 廖增弌 For his high power and high voltage engineering research and development.

Mr. C. D. Shiah 夏勤鐸 For his contributions in petroleum processes.

Mr. Y. C. Yang 楊裕球 For his advanced concept in structural design.

Mr. Shao C. Jem 謝紹欽 For his enthusiastic and consistent service to CIE-USA.

1973 Dr. Sin-I Cheng 程心一 For his contribution to Jet, Rocket, Nuclear, Ion, and Electric Propulsion.

Mr. Jeffrey Chu 朱傳渠 For his contribution to The Continuous Development and Management of Computer Technology for the Past Quarter Century.

1973 Mr. J. T. Shaw 蕭存人 For his outstanding leadership in Development Industrial Enterprises and in Fostering International Relationship with Southeast Asia.

1974 Mr. Yun-Suan Sun 孫運璠 For his outstanding leadership and contributions in promoting technological research and development in The Republic of China.

Dr. Hung-Chang Lin 凌宏瑋 For his pioneering contributions to the mono-lithic integrated electronics technology

Dr. Kang-Jen Liu 劉康仁 For his outstanding contributions to pure and allied chemistry.

1975 Mr. K. T. Li 李國鼎 For his outstanding contribution to the mobilization of productive resources in the Republic of China.

Dr. Ernest Kuh 葛守仁 For his outstanding contribution to research and teaching in circuit theory and systems and his leadership in engineering education.

Dr. George C. Sih 薛昌明 For his outstanding contribution in research and teaching in fracture mechanics.

1976 Mr. K. S. Chang 張光世 For his leadership in promoting the economic growth and industrial expansion in the Republic of China.

Mr. H. C. Fang 方賢齊 For his contribution to the development of telecommunication systems in the Republic of China.

Dr. Simon K. Chen 陳國祥 For his outstanding contribution to the development of diesel engines.
Dr. Samuel C. C. Ting
丁肇中
For his outstanding contribution in the discovery of the "J" particle triggered the finding of a whole family of similar particles.

1977 Mr. Jerome S. N. Hu
胡新南
For his outstanding leadership in modernizing and expanding the petrochemical industries in the Republic of China.

Dr. A. Tobey Yu
俞霭庭
For his contribution in the field of Material handling technology related to the design and construction of ship-barge loading systems.

Dr. Wen H. Ko
葛文勋
For his contribution in bio-medical engineering and teaching.

1978 Mr. Lan-Kao Chen
陳蘭皋
For his distinguished leadership in modernizing and expanding the power industry in the Republic of China.

1978 Mr. I-Fang Tang
鄧義芳
For his outstanding contributions to the success of the industrial and economic development in the Republic of Singapore.

Mr. Kuo-Chi Wang
王國琦
For his outstanding service to CIE in promoting the cooperation between the CIE/ROC and CIE/USA.

Dr. Ti-Kang Kwei
桂體剛
For his pioneering contributions in the composite and diffusion in macromolecular systems.

Dr. Tingye Li
厲鼎毅
For his fundamental contributions to laser-resonator theory and his outstanding contributions in optical communications.

1979 Mr. Chang-Ching Wang
王章清
For his outstanding contribution in the municipal planning and transportation engineering.

Mr. Hsiao-Chang Yen
嚴孝章
For his outstanding worldwide contribution in construction engineering.

Dr. Catherine S. H. Chen
陳夏瑞華
For her contribution to the advancement of polymer chemistry and engineering.

Dr. Mo-Shing Chen
陳謀星
For his contribution to the advancement of electrical power engineering and technology.

Mr. Frank Y. S. Chen
陳耀生
For his dedicated service to the Institute.

Dr. Henry L. Wen
溫陵雄
For his dedicated service to the Institute.

1980 Mr. William Y. T. Chao
趙耀東
For his contribution to the steel industry in the Republic of China.

Mr. Hsu Chang
張煦
For his contribution to magnetic memories and computer science.

Mr. Gilbert Chin
陳耀煊
For his contribution to the fundamental understanding of crystal plasticity and to the development of magnetic alloys.

1981 Mr. George C. Lee
李元兆
For his contribution to structural engineering, biomechanics, and engineering education.

Dr. T.S. Lin
林挺生
In recognition of his outstanding industrial leadership, educator and citizenship.
Mr. Yung-Ning Wei

Dr. Leonard Y. Liu

Dr. Y. L. Fan

1982

Mr. Yi-Ting Wong

Mr. S. F. Tung

Dr. Hwa-Nien Yu

Mr. T. F. Huang

Dr. Roxy Ni Fan

1982

Mr. Y. C. Yang

1983

Dr. King-Sun Fu

Mr. David S. Lee

Dr. Chi-Cheng Chang

Mr. S. T. Lee

Mrs. Linda Liu

1984

Dr. Morris Chang

Dr. David H. Cheng

Dr. T. Y. Shen

Dr. S. S. Shu

Dr. Vivin W. Yen

1985

Dr. Alfred Y. Cho

Mr. W. M. Lu

Dr. David I. J. Wang

In recognition of his exemplary leadership in promoting industrial development in the Republic of China.

In recognition of his outstanding organizational capability and system management and operation.

In recognition of his excellent leadership in CIE operation.

In recognition of his outstanding contribution to the international trade promotion for ROC.

In recognition of his life-long devoted service in petrochemical industry and as a successful manager of national enterprise.

In recognition of his outstanding contribution to silicon technology and his pioneering work in VLSI technology.

In recognition of his numerous contributions in naval architecture and his successful design and building of the world's largest crude oil tanker.

In recognition of her contribution to the modern printing technology.

In recognition of his devoted institute service and working spirit.

For his leadership in Engineering education and contribution to pattern recognition.

For his successful development of computer peripheral industry.

For his leadership in applied scientific management to government service.

For his unique effort and success in petroleum industry.

For her devoted service to CIE/USA.

For his outstanding leadership and pioneering contribution to electronic industry.

For his outstanding contribution to engineering education.

For his outstanding achievement in medicinal chemical research.

For his contribution in promoting industrial research and development in the Republic of China.

For her pioneering contribution and leadership in textile and automotive industries in the Republic of China.

For his outstanding research in new technology, materials and devices.

For his achievement in city planning both in the USA and abroad.

For his advancement of new technology and new industrial ventures.
<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>Dr. Taylor G. Wang</td>
<td>For his contribution to space physics.</td>
</tr>
<tr>
<td></td>
<td>Dr. C. H. Yen</td>
<td>For his pioneering promotion of METS and National Education in the Republic of China.</td>
</tr>
<tr>
<td></td>
<td>Dr. D. H. Hu</td>
<td>For his leadership in technological development and management in the Republic of China.</td>
</tr>
<tr>
<td></td>
<td>Dr. Vincent H. K. Chu</td>
<td>For his unwavering and devoted service to CIE.</td>
</tr>
<tr>
<td>1986</td>
<td>His Excellency C. K. Yen</td>
<td>For his uninterrupted support and policy guidance to the METS since its inception in 1966.</td>
</tr>
<tr>
<td></td>
<td>Dr. James Wei</td>
<td>For his excellent leadership in engineering research and education.</td>
</tr>
<tr>
<td></td>
<td>Dr. Y. C. L. (Susan) Wu</td>
<td>For her pioneering work in magnetohydrodynamics research and leadership in energy conversion R &amp; D programs.</td>
</tr>
<tr>
<td></td>
<td>Dr. Charles Kao</td>
<td>For his pioneering research and accomplishment in the field of optical fiber communications.</td>
</tr>
<tr>
<td>1987</td>
<td>Dr. J. Carl Hsu</td>
<td>For his leadership and outstanding contributions to the development of switching and computer systems.</td>
</tr>
<tr>
<td></td>
<td>Mr. Stanley Shih</td>
<td>A pioneer contributor to a successful high-tech industry in a developing country.</td>
</tr>
<tr>
<td></td>
<td>Dr. Paul Ching Wu Chu</td>
<td>For his pioneering contribution to superconductivity.</td>
</tr>
<tr>
<td>1987</td>
<td>Dr. Sun-Nan Hong</td>
<td>For his leadership and dedication to the formation of the CIE-USA National Council.</td>
</tr>
<tr>
<td></td>
<td>Dr. Kuei-Wu Tsai</td>
<td>For his leadership and dedication to the formation of the CIE-USA National Council.</td>
</tr>
<tr>
<td>1988</td>
<td>Dr. L. A. Chen</td>
<td>For his contribution to the promotion planning and coordination of the technological in the Republic of China.</td>
</tr>
<tr>
<td></td>
<td>Dr. H. T. Kung</td>
<td>For his contribution to the development of systolic arrays in computer science.</td>
</tr>
<tr>
<td></td>
<td>Dr. Patrick Kung</td>
<td>For his contribution to the medical applications of monoclonal antibody and T-cells.</td>
</tr>
<tr>
<td></td>
<td>Dr. Otto C. C. Lin</td>
<td>For his scientific achievements in polymeric field and his contribution to the establishment of an outstanding material research institute in the Republic of China.</td>
</tr>
<tr>
<td></td>
<td>Dr. Wen Lin</td>
<td>For his dedicated and unselfish service to the professional cause of this Institute.</td>
</tr>
<tr>
<td>1989</td>
<td>Dr. Herbert Chang</td>
<td>For his outstanding contribution to the Electronic Switching Technology and Telecommunication Industry.</td>
</tr>
<tr>
<td></td>
<td>Dr. Chintay Shih</td>
<td>For his contributions to the Advancement of the Micro-Electronic Technology and Electronic Industry in the Republic of China.</td>
</tr>
<tr>
<td></td>
<td>Mr. Yung-Shih Kuan</td>
<td>For his distinguished service in the Advancement of Petrochemical Industry in the Republic of China.</td>
</tr>
</tbody>
</table>
Dr. Shih-Chien Yang 杨世衔 For his distinguished contributions to the Scientific and Industrial in the Republic of China.
Ms. Grace C. C. Lee 李慶珠 For her leadership and dedication to the Institute and the Professional Scientific Community.
Dr. Chung-Ming An 安仲明 For his dedicated service to the Institute and Technical Advancement in the Engineering Society.
Mr. Arthur Y. Chen 陳豫 For his outstanding contributions to the engineering and construction industry in ROC.
Dr. Michael C. Chen 陳建國 For his distinguished service and outstanding financial management for the Institute.
Mr. Ya-Moh Dong 童亞牧 For his distinguished service in the advancement of engineering and construction industry in ROC.
Dr. Chin-Lung Yeh 葉金龍 For his distinguished service to the Institute and the METS.
Dr. Shirley W. Y. Kuo 郭婉容 For her distinguished service in the economic planning and development in ROC.
Dr. Eugene Y. H. Chien 简又新 For his outstanding contribution to environment legislation and creativity in the development of Environmental Awareness in ROC.
Dr. Gordon T. Chen 陳大雄 In recognition of his service to the Institute.
Dr. Eric S. Hsiue 薛一新 In recognition of his service to the Institute and METS.
Dr. Wei-Kuo Lee 李維國 In recognition of his dedicated service to the Institute.
Dr. Anthony C.H. Ku 谷家恆 For his achievement in applied research and technology development.
Dr. Norman N. Li 黎念之 For his achievement in separation science and technology.
Dr. K. K. Wang 王國金 For his achievement in automation and manufacturing engineering.
Mr. Junru Ma 马俊如 For his leadership in promoting the economic growth in Taiwan.
Dr. Charles M. Tsai 蔡明晧 For his dedicated service to the Institute and METS.
Dr. Winston H. Chen 陳文雄 For his accomplishment and leadership in the electronics contract manufacturing business.
Dr. Fenggan Zhuang 莊逢甘 For his outstanding contribution to the fundamental science in aerodynamics and the development of aerospace technology in China.
Mr. Patrick Wang 王華燕 For his entrepreneurship and successful commercialization of microwave communication technology in Taiwan.
Mr. Jie Wang 王吉 For his exemplary entrepreneurial spirit and managerial skill in transforming a research institute to a prosperous enterprise in Jiangsu.

Ms. Li-lan Zhu 朱麗蘭 For her leadership in planning and implementation of central policies for the development of modern technologies in China.

Dr. Shu-Jou Lee 李樹久 For his dedicated service and accomplishment in guiding the economic development in Taiwan.

Dr. Janpu Hou 候展璞 For his dedicated service to the Institute and SATEC

1994 Dr. Hui Hwui Chin 張瑞浚 For his accomplishment in the academia and leadership in the field of electromagnetic

Dr. David C. Chang 張瑞浚 For his outstanding contribution to the areas of automotive and electronic coatings

Dr. Ying-Kao Lee 王錦楨 For his leadership and accomplishment in the steel industry in Taiwan

Mr. Chung-Yu Wang 王錦楨 For his leadership and accomplishment in the Chinese typesetting system in China

Prof. Xuan Wang 王錦楨 For his leadership and accomplishment in guiding the information technology in Taiwan

Mr. Yun Kuo 果芸 For his leadership and outstanding contribution to public construction

1995 Mr. Chung-Kung Shih 石中光 For his leadership and outstanding contribution to public construction

Mr. C. S. Liu 陈幼慧 For his pioneering contribution to pharmaceutical manufacturing industry

Dr. Chih Yuan Lu 畢志還 For his outstanding achievement in submicron IC development

Mr. Guangnan Ni 倪光南 For his excellent contribution to the development of computer industry

Dr. Thomas P.K. Chang 張平康 For his dedicated service to the Institute

1996 Mr. Robert H. C. TSAO 曾興誠 For his achievements and outstanding contribution in the development of microelectronics industries in ROC.

Dr. Steve S. Cheng 鄭瑞雨 For his achievements and outstanding contribution in the development of communication industries in ROC.

Mr. Hanyan Yang 楊漢炎 For his dedication and outstanding service to the course of technology transfer from U.S. Chinese engineering communities to the People's Republic of China.

Dr. Chiao Yeh 楊漢炎 For his dedication and outstanding service to the professional cause of this Institute.

1997 Dr. Chen Chiang 蔣震 For his outstanding contribution in engineering education and leadership in modernization of the Chinese machinery industry.

Dr. Chi-Fu Den 鄧啟福 For his outstanding contributions in engineering education and in the promotion of cooperation among Chinese Universities.
Dr. Shilie Weng 翁史烈 For his outstanding contributions in engineering education and in the promotion of cooperation among Chinese Universities.

Dr. Tien-Pei Lee 李天培 For his outstanding contribution to opto-electronics and communications.

Dr. Ding Yuen Yang 楊丁元 For his outstanding contribution in the advancement of micro electronics and computer technologies in Taiwan, ROC.

Dr. Tsu-Wu Chou 周祖武 For his leadership and dedications to the Chinese engineering communities.

Mr. Jun Ru Ma 馬俊如 In recognition of his outstanding contribution to SATEC program.

Dr. Yen-Shiang. Shih 施顏祥 In recognition of his outstanding contribution to the METS program.

Mr. K. C. Wang 王國琦 In recognition of his outstanding contribution to the METS program.

Dr. Nai Wang 王迺 In recognition of his outstanding contribution to SATEC program.

1998 Dr. Benjamin Chu 朱鵬飛 For his outstanding achievement in the fields of physical chemistry, polymer physics and material science.

Dr. Shui Yee Lee 李瑞儒 For his leadership and technical innovation in the development of service design and inventory management system.

Mr. Michael Mou 莫自治 For his outstanding contribution in the development of personal telecommunication products.

Dr. Bingqun Xiong 熊秉群 For his achievements and outstanding contribution in the development of national telecommunication industry in PRC.

Dr. Kuo-Kuang Hsu 許國光 For his enthusiastic and consistent services to the Institute

1999 Dr. Lin-Nan Lee 李寧南 For his outstanding service in the field of Wireless and Satellite Communications

Dr. Won T. Tsang 曾煥添 For his contribution to the advancement of Semiconductor Laser Material and Devices

2000 Dr. Bede Liu 劉必治 For his distinguished contribution to engineering education, network theory and digital signaling processing.

Dr. William C. Y. Lee 李建業 For his contribution to wireless communications – as an author, inventor, researcher and manager.

Dr. Da-Hsuan Feng 馮達旋 For his dedicated effort in coordination of Chinese American professional societies

Dr. Sing H. Lin 林星雄 For his dedicated service to the Institute

Mr. Ming-Hao Liu 劉明瀚 For his long standing dedication service to the Institute

2001 Mr. Benjamin Cheng 鄭國賓 For his 35 years’ dedication service to the Institute
<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>Dr. Yih-yun Hsu</td>
<td>For his outstanding contribution to fundamentals of boiling heat transfer and nuclear power safety</td>
</tr>
<tr>
<td></td>
<td>Dr. Ovid J. L. Tseng</td>
<td>For his outstanding services in education, research and policy making</td>
</tr>
<tr>
<td></td>
<td>Dr. Chia Jung Liu</td>
<td>For his dedicated service to the Institute</td>
</tr>
<tr>
<td>2003</td>
<td>Dr. Chun-Yen Chang</td>
<td>For his pioneer contribution to semiconductor industry and outstanding services in education</td>
</tr>
<tr>
<td></td>
<td>Dr. Jin Wu</td>
<td>For his outstanding services in high education and policy making</td>
</tr>
<tr>
<td></td>
<td>Mr. Edward Yang</td>
<td>For his leadership and contribution to progress in information technology</td>
</tr>
<tr>
<td></td>
<td>Dr. David Shaw</td>
<td>For his contribution to research in aerosol and nanotechnology</td>
</tr>
<tr>
<td></td>
<td>Dr. Edward Cheng</td>
<td>For his contribution to Hubble telescope project</td>
</tr>
<tr>
<td></td>
<td>Dr. Ted Chongpi Lee</td>
<td>For his dedicated service to the Institute</td>
</tr>
<tr>
<td>2004</td>
<td>Dr. Carter Tseng</td>
<td>For his pioneer work and leadership in high-tech industry in Taiwan</td>
</tr>
<tr>
<td></td>
<td>Dr. Ya-Qin Zhang</td>
<td>For his leadership and contributions in software development</td>
</tr>
<tr>
<td></td>
<td>Dr. Frank Cheng</td>
<td>For his dedicated service to the Institute</td>
</tr>
<tr>
<td>2005</td>
<td>Dr. Johnsee Lee</td>
<td>For his leadership and contribution to industrial research and development in Taiwan</td>
</tr>
<tr>
<td></td>
<td>Dr. Peter T. C. Shih</td>
<td>For his pioneer leadership in the photonics industry in Taiwan</td>
</tr>
<tr>
<td></td>
<td>Dr. William M. Tang</td>
<td>For his leadership in fusion research and contribution to fundamentals of plasma science</td>
</tr>
<tr>
<td></td>
<td>Dr. Allen Chen</td>
<td>For his dedicated service to the Institute</td>
</tr>
<tr>
<td>2006</td>
<td>Dr. Harold Hwaling Szu</td>
<td>For his contribution to neural networks applications in information sciences</td>
</tr>
<tr>
<td></td>
<td>Mr. John T. Yu</td>
<td>For his leadership in the global engineering and construction business in Taiwan</td>
</tr>
<tr>
<td></td>
<td>Dr. Yi-Kang An</td>
<td>For his dedicated service to the Institute</td>
</tr>
<tr>
<td>2007</td>
<td>Dr. Tse Wen Chang</td>
<td>For his contribution to insights in making genetically engineered antibodies and bioscience area</td>
</tr>
<tr>
<td></td>
<td>Dr. Stephen Y. Chou</td>
<td>For his contribution to nanoscale patterning and the scaling of devices</td>
</tr>
<tr>
<td></td>
<td>Dr. James C. M. Hwang</td>
<td>For his contribution to development of molecular beam epitaxy manufacturing and hetero-structure devices and materials</td>
</tr>
</tbody>
</table>
Mr. Huaping Huang

For his contribution to lead the development of the largest hydroelectric river dam (China Yangtze Three Gorges Dam) in the world

Dr. Biing-Hwang Juang

For his contribution to speech coding and speech recognition

Mr. Kuo-Ann Chiao

For his dedicated service to the Institute

Ms. Mary S. Chan

For her leadership in wireless innovation

Dr. Jay Lee

For his leadership in manufacturing development and devoted service to engineering community

Dr. Paul Lin

For his leadership in technology and industry development of broadband information and digital video

Dr. Ralph Yang

For his contribution to hydrogen research

Dr. Chein-Chi Chang

For his dedicated service to the Institute

Ms. Anne H. Chow

For her leadership in business development and entrepreneurship

Dr. Jingshown Wu

For his contributions in telecommunication development in Taiwan

Dr. Hai-Lung Dai

For his contributions in molecular and surface sciences

Dr. H. Jonathan Chao

For his dedicated service to this Institute

Dr. Jason Hsuan

For his leadership in business development and entrepreneurship

Dr. Andrew Wang

For his outstanding contributions in anti-cancer drug-DNA complex

Dr. Jun Ni

For his outstanding contributions in manufacturing development

Dr. Jun-Min Liu

For his dedicated service to this Institute

Dr. Burn Lin

For his contributions in immersion lithography technology which revolutionizes the global semiconductor manufacturing process

Dr. Jyuo-Min Shyu

For his contributions in nanotechnology and leadership for Industrial Technology Research Institute (ITRI)

Dr. Paul Lin

For his dedicated service to this Institute

Dr. Victor Zue

For his leadership in developing and executing long-term engagement plan on advanced education in China

Ms. Marjorie Hsu

For her innovative approach on fusion of business and technology for advancing wireless services

Dr. Kai Li

For his contributions to revolutionize data storage management and scalable display in computer technology
Dr. Rong Chang 张 荣 For his dedicated service to this Institute

2013
Dr. Priscilla Lu 陸 美 衍 For her leadership in developing advanced-technology businesses and promoting entrepreneurship education programs
Dr. Shoucheng Zhang 张 首 嵩 For his groundbreaking discovery of quantum spin Hall Effect
Dr. Shu-Ping Chang 張 書 平 For his dedicated service to this Institute

2014
Dr. Wen-Hann Wang 王 文 漢 For his outstanding technology contributions and corporate leadership
Dr. Xiang Zhang 张 翔 For his pioneering contributions in metamaterials and creation of the first optical superlens with resolutions beyond the fundamental diffraction limit
Dr. Xiaowei Zhuang 莊 小 威 For her pioneering contributions in breaking the diffraction barrier with super-resolution imaging of cells
Dr. Howard Chen 陈 浩 For his dedicated service to this Institute

2015
Dr. Chih-Kung Lee 李 世 光 For his leadership in driving technological innovation and industrial collaboration, and his invention of modal sensors and actuators.
Dr. Tso-Pin Ma 馬 佐 平 For his contribution to interdisciplinary research in the science and technology issues related to semiconductor devices.
Dr. Donald T. Tang 唐 道 南 For his pioneering work on VLSI design automation and leadership in the development of world’s first continuous Chinese speech recognition system.
Dr. Yew-Huey Liu 劉 玉 慧 For her devoted service to this institute.

2016
Dr. Charles Ching-Hsiang Hsu 徐 清 祥 For his vision and leadership in the semiconductor industry.
Dr. Minda Ho 何 昱 達 For his technical leadership in industry gas production and extraordinary contribution to the Chinese chemical industry.
Dr. Paul Tang For his leadership in driving health information technology to improve the quality of health care.
Dr. Tien-Jen Cheng 鄭 天 人 For his devoted service to this institute.

2017
Dr. James Si-Cheng Chao 趙 錫 成 For his leadership in adopting energy-efficient and eco-friendly ship design and technology.
Dr. Man-Chung Tang 鄧 文 中 For his outstanding contribution to bridge design and construction engineering.
Dr. Janpu Hou 侯 晟 璞 For his leadership in developing fiber optic technology and establishing the Sino-American Technology and Engineering Conference (SATEC).
Building Resilience against Pandemic through Science and Technology

Dr. Sean S. H. Wang 王韶華 For his contribution to high-tech incubation and international research collaboration.

Mr. Richard Liu 劉強東 For his visionary leadership in developing the e-commerce platform and drone technology.

Mr. William Yeh 葉振忠 For his contribution to information-sharing technology and integrated case management system.

Dr. C. Eric Wu 吳振藩 For his contribution to the Institute, and to the computer industry in the areas of computer architecture, operating system, and cloud automation.

Dr. Jun-Min Liu 劉主民 For his contribution to the advancement of scheduling algorithm, capacity planning, and risk management in telecom and aviation industries.

2018

Dr. Yuh-Jier Mii 米玉傑 For his leadership at TSMC and the semiconductor technology.

Dr. Kang Wang 王康隆 For his leadership in magnetic memory technologies and contributions to topological spintronics.

Mr. Clement Lin 林茂昌 For his leadership at Nexcom, Robotics, Industry 4.0, and being the driving force in Taiwan.

Dr. Kun-Lung Wu 吳坤龍 For his contribution to the Institute.

2019

Dr. Jeannett M. Wing 周以真 For her intellectual in computer science, particularly in trustworthy computing.

Mr. Tom Cho 卓桐華 For his leadership at Inventec Corp. and the electronic industry in Taiwan.

Dr. Yuanyuan Zhou 周源源 For her setting-up an exemplary model to the Chinese American community as both an outstanding researcher and a successful entrepreneur.

Dr. Stephen S. Yau 丘錫生 For his dedication and leadership in software engineering and science.

Dr. I-Hsin Chung 鍾一新 For his devoted service to this institute.
<table>
<thead>
<tr>
<th>An</th>
<th>Chung-Ming</th>
<th>Cheng</th>
<th>Chia</th>
<th>Kao</th>
<th>WenLing</th>
<th>Liu</th>
</tr>
</thead>
<tbody>
<tr>
<td>An</td>
<td>Yi-Kang</td>
<td>Chen</td>
<td>Chao</td>
<td>Kiang</td>
<td>Patty H.</td>
<td>Liu</td>
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<tr>
<td>Bao</td>
<td>Frank W.</td>
<td>Chen</td>
<td>Chiu</td>
<td>Kiang</td>
<td>Y. H.</td>
<td>Liu</td>
</tr>
<tr>
<td>Chang</td>
<td>Chein-Chi</td>
<td>Chang</td>
<td>Chou</td>
<td>Koh</td>
<td>ShowLong</td>
<td>Liu</td>
</tr>
<tr>
<td>Chang</td>
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# 2020 CHINESE INSTITUTE OF ENGINEERS – USA
## GREATER NEW YORK CHAPTER
### 美洲中國工程師學會大紐約分會

THE OBJECTIVE AND PURPOSE OF THE ORGANIZATION ARE:

1. TO ENCOURAGE STUDY AND RESEARCH IN ENGINEERING AND SCIENTIFIC SUBJECT, PRIMARILY AMONG ENGINEERS AND SCIENTISTS OF CHINESE AMERICANS.
2. TO PROMOTE COMMUNICATIONS AMONG ENGINEERS AND SCIENTISTS WHO ARE INTERESTED IN THE WELL-BEING OF THE CHINESE ENGINEERING COMMUNITY IN THE U.S. AND ABROAD.

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<td>Fu-Hsuan Sean Chiu</td>
<td>邱 富 萱</td>
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<tr>
<td>Tien-Jen Cheng</td>
<td>鄧 天 人</td>
<td>I-Hsin Chung</td>
<td>鍾 一 新</td>
<td></td>
</tr>
</tbody>
</table>

## NATIONAL COUNCIL REPRESENTATIVES

<table>
<thead>
<tr>
<th>Name</th>
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<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monsong Chen</td>
<td>陳 孟 松</td>
<td>Keith Kwong Hon Wong</td>
<td>黃 河 航</td>
<td>Cheng-Yi Lin</td>
</tr>
<tr>
<td>Jeng-Bang Yau</td>
<td>姚 正 邦</td>
<td>Fu-Hsuan Sean Chiu</td>
<td>邱 富 萱</td>
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</tr>
</tbody>
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Through scientific technology to build resilience against pandemics. 2020 ANNUAL CONVENTION

Building Resilience against Pandemic through Science and Technology
ACKNOWLEDGMENT

CIE-USA/GNYC would like to thank the following individuals, corporations, and organizations for their generosity to support the Institute. With their support, we are able to continue our services to the Chinese engineering and scientific community in the Greater New York area.

- Chiao-Tung University Alumni Association in America (CTUAAA, 美洲交通大學校友會)
- Chinese American Academic & Professional Society (CAAPS, 美東華人學術聯誼會)
- CSI Technology Group
- Culture Center of Taipei Economic and Cultural Office (TECO), New York (紐約華僑文教服務中心)
- IBM ECCC by CIE GNYC Members
- Industrial Research Technology Institute, ITRI International (工業技術研究院)
- Investment & Trade Office, Taipei Economic and Cultural Office (TECO) in NY (駐美投資貿易服務處)
- NexCOBOT, a NEXCOM company (NEXCOM International Co., Ltd., 新漢股份有限公司)
- Science and Technology Division, Taipei Economic and Cultural Office in Boston (TECO in Boston, 駐波士頓臺北經濟文化辦事處科技組)
- Sheraton LaGuardia East Hotel
- Stellar Services
敬賀
美洲中國工程師學會大紐約分會 2020 年年會順利召開

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Chiao-Tung University Alumni Association in America
www.ctuaaa.org

Stellar Services, Inc.
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Maggie Lin (732)346-0200 ext.621  mlin@csitech.com

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CULTURE CENTER of T.E.C.O. in New York
133-32 41 Rd., FLUSHING, NY 11355, U.S.A.
TEL:(718)886-7770  FAX:(718)961-3303
http://www.ocac.net/newyork;  E-mail: cctecoinny@gmail.com

中華民國僑務委員會對僑胞的聯繫與服務是無遠弗屆的。為加強對僑胞的聯繫與服務，傳揚中華文化及台灣文化，拓展僑教，更為了讓移居異國的僑胞有一個溫暖的去處，特地在全球華僑聚居的城市先後設置華僑文教中心，作為各地的服務窗口。希望透過我們的服務，讓海外僑胞能跨越國界，縱使在海外仍能感受僑務委員會的關懷，而與台灣緊緊相繫，時時相連。

The Overseas Community Affairs Council (OCAC) of the Republic of China (Taiwan) is assiduous in its provision of services to overseas compatriots. In order to enhance communication with overseas compatriots, to promote Chinese/Taiwanese culture and education, and in particular to provide a place that overseas compatriots can call home, the OCAC has established Culture Centers in cities with high concentrations of overseas Chinese/Taiwanese around the world. The Center is a point of contact for obtaining a variety of services. We hope that through our endeavors all overseas compatriots could feel the thoughtfulness of the OCAC even across the international borders, and will continue to identify with and render support to Taiwan.

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Circular Economy
New Agriculture

駐紐約台北經濟文化辦事處
Taipei Economic & Cultural Office in New York
INNOVATING
A BETTER FUTURE

About ITRI
ITRI is one of the world’s leading technology R&D institutions aiming to innovate a better future for society. Based on its long-term partnership with various industry sectors, ITRI offers a wide range of services, from technical to business consultation, to the international community—such as contract research, product and process development, and pilot runs for technological upgrades; IP strategy and licensing, industrial analysis, and talent training for hi-tech business; and the open lab and incubation for new ventures and emerging industries. The Institute has also incubated more than 240 innovative companies since 1973, including well-known names such as UMC and TSMC. Headquartered in Taiwan, ITRI has five branch offices in Silicon Valley, Tokyo, Berlin, Moscow, and Eindhoven to extend its R&D innovation across the globe.
Congratulations
to
Chinese Institute of Engineers - Greater New York Chapter
CIE-USA/GNYC
Have a Successful 2020 Annual Convention!

Chinese American Academic & Professional Society
www.caaps.us caaps@caaps.us
Leaders in Future Trends, Taiwan Talent Recruitment Program

Ministry of Science and Technology R.O.C. (Taiwan) has kept up the call for overseas talent to return to Taiwan and serve. This proactively introduces new international knowledge and technology into Taiwan’s industry-academic-research infrastructure, and helps guide Taiwanese industry to break new ground. Taiwan has a great need for excellent people like you to join the Leaders in Future Trends (LIFT) Program. Excellent overseas scholars are welcome to come work with us and become the keys to change!

Eligibility

- Applicants must be under 45 years of age (born after January 1, 1975).
- Academic and work qualifications (must be in one of the following four categories):
  1. Possesses a doctoral degree from a foreign university, and has at least 2 years of paying work experience at the applicant’s last job outside Taiwan.
  2. Possesses a master’s degree from a foreign university, and has at least 3 years of relevant overseas work experience in the field of artificial intelligence.
  3. Possesses a doctoral degree from a domestic university, has at least 3 years of overseas work experience, and is still overseas at the time of application.
  4. Applicants who are currently enrolled in an overseas Ph.D. program and plan to graduate before the end of 2020 may submit proof issued by the overseas university that they have passed their oral defense and dissertation review. Once they have received a doctoral degree certificate, applicants must submit a copy to MOST for review.

Please apply via the LIFT Program website and upload the following documents:

1. Official diploma and/or related academic credentials issued by an institution in Taiwan or overseas.
2. Before the application deadline, applicants must provide proof of study/work overseas during the most recent 2 years, or R.O.C. (Taiwan) entry and exit records for the most recent 3 years.

Subsidy Method and Accommodation Arrangements

- The Program will provide subsidies covering single round-trip economy class airfare to and from Taiwan for the selected applicant’s attendance at the Leaders in Future Trends O2O Conference, and such airfare will be for the most direct route from the selected applicant’s place of residence or work. Selected applicants must submit their electronic ticket, boarding pass, and proof of purchase to obtain reimbursement. Relevant subsidy regulations will be announced on the Program website.
- The Program will arrange professional exchange activities, visits to national development projects and domestic industries, universities, and research organizations, and also hold a talent matchmaking event (10 days in total) for those individuals selected to participate in the Leaders in Future Trends O2O Conference in Taiwan. Subsidies will be provided for accommodations, meals, and transportation during the activity period; other expenses will not be covered.

I Want to Apply

To learn more, please contact:
Ministry of Science and Technology R.O.C. (Taiwan) Leaders in Future Trends (LIFT) Program Office
Tel: +886-2-2737-7956/7746 Email: lift@stpi.narl.org.tw

LIFT Online Platform

Organizer
MOST
Implementer
STPI
Introduction of LEAP Program
LEAP Program has been launched by the Ministry of Science and Technology (MOST) of TAIWAN for 3 years. We cooperate with high-tech companies, start-ups and venture capitals in the U.S., Israel and France to facilitate cross-country knowledge circulation and business development. Through the Program, overseas companies that become LEAP enterprise partners will host carefully screened, selected, and matched talents as LEAP Fellow(s) for one year.

Preferred Industry Fields for Partnership
Aligned with Taiwan industry development policy, LEAP Program would like to partner with companies in the industry fields such as Internet of things, semiconductors and IC design, biomedical, smart machinery, digital economy, green energy, defense, new agriculture, circular economy and cultural innovation.

LEAP Fellow Background and Grant from MOST
Talents with Ph.D. degree or relevant industry experience. MOST will provide each admitted LEAP Fellow living allowance for one year and support the VISA application process.

Our Partner Companies
Over 130 companies from the U.S., Israel and France have joined LEAP Program since 2017. You may find more information on our website.

How to become a Host Company?
Provide information of your company by filling in the online registration form at: https://survey.stpi.narl.org.tw/s/gdGO0 before March 22nd, 2020.

Timeline of Selection Process

<table>
<thead>
<tr>
<th><strong>2020 2nd Batch</strong></th>
<th><strong>Call for Host Companies (HC)</strong></th>
<th>February – Late March</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HC Review by MOST Committee</td>
<td>Late March</td>
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<tr>
<td><strong>Talents Apply Online</strong></td>
<td><strong>Applicants’ Profile Review</strong></td>
<td>April</td>
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<td><strong>LEAP CAMP</strong></td>
<td>May</td>
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<td><strong>Interview &amp; Matchmaking</strong></td>
<td>Late May</td>
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<td></td>
<td><strong>Announce List of Selected Fellows</strong></td>
<td>Starting from May</td>
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<tr>
<td></td>
<td><strong>LEAP Fellows on board</strong></td>
<td>November - December</td>
</tr>
</tbody>
</table>

The exact date will be announced via email during the selection process.

Target the right talents for your company!

Contact us: LEAP@stpi.narl.org.tw