Stanford

Yinyu Ye

Kwoh-Ting Li Professor in the School of Engineering, Emeritus

Management Science and Engineering

Curriculum Vitae available Online Resume available Online

CONTACT INFORMATION

- **Administrator**

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Bio

BIO

Yinyu Ye, the 2009 John von Neumann Theory Prize recipient and formally the K.T. Li Professor of Stanford University, is now the Visiting Professor of Shanghai Jiao Tong University, Shanghai Institute of Mathematical and Interdisciplinary Sciences, Chinese University of Hong Kong at Shenzhen and Hong Kong University of Science and Technology. His current research topics include Continuous and Discrete Optimization, Data Science and Applications, Numerical Algorithm Design and Analyses, Algorithmic Game/Market Equilibrium, Operations Research and Management Science etc.. He was one of the pioneers on Interior-Point Methods, Conic Linear Programming, Distributionally Robust Optimization, Online Linear Programming and Learning, Algorithm Analyses for Reinforcement Learning\Markov Decision Process, nonconvex optimization, and etc. He and his students have received numerous scientific awards, himself including the 2006 INFORMS Farkas Prize (Inaugural Recipient) for fundamental contributions to optimization, the 2009 John von Neumann Theory Prize for fundamental sustained contributions to theory in Operations Research and the Management Sciences, the inaugural 2012 ISMP Tseng Lectureship Prize for outstanding contribution to continuous optimization (every three years), the 2014 Society of Industrial and Applied Mathematics Optimization Prize awarded (every three years), the 2025 Constantin Caratheodory Prize of the Global Optimization Congress, etc. He served as a consultant or technical board member to a variety of industries, including Cardinal Operations (COPT) and MOSEK.

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Management Science and Engineering
- Member, Institute for Computational and Mathematical Engineering (ICME)

HONORS AND AWARDS

- SIAM Optimization Prize, SIAM (2015)
- Lectureship Prize (Inaugural Recipient), ISMP Tseng (2012)
- John von Neumann Theory Prize (Co-Recipient), INFORMS (2009)
- Faculty of the Year Award, Stanford Asian American Society (2007)
- Inaugural recipient of the Farkas Prize, INFORMS Optimization Society (2006)
- Fellow, INFORMS (November 6, 2006)

- Plenary speaker, International Symposium on Mathematical Programming, Berlin (2012)
- Plenary speaker, Workshop on Internet and Network Economics (2008)
- Semi-Plenary speaker, 17th International Symposium on Mathematical Programming, Atlanta (2000)
- Area Editor, Optimization & Engineering (2000)
- Associate Editor, Mathematics of Operations Research (1998-2001)
- Section Officer (Linear Programming), Institute for Operations Research and the Management Sciences (1997-2000)
- Co-organizer, DIMACS Princeton workshop on discrete optimizatio (1999)

PROGRAM AFFILIATIONS

- Center for East Asian Studies
- Stanford SystemX Alliance

PROFESSIONAL EDUCATION

- BS, Huazhong University of Science and Technology (HUST), China , Systems and Control (1982)
- MS, Stanford University , Engineering Economic Systems (1983)
- PhD, Stanford University , Engineering Economic Systems and Operations Research (1988)

LINKS

- Personal: https://web.stanford.edu/~yyye/index.html
- Lab Site: https://web.stanford.edu/~yyye/index.html

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My current research interests include Continuous and Discrete Optimization, Algorithm Development and Analyses, Algorithmic Game/Market Theory and Mechanism-Design, Markov Decision Process and Reinforcement Learning, Dynamic/Online Optimization and Resource Allocation, and Stochastic and Robust Decision Making. These areas have been the unique and core disciplines of MS&E, and extended to new application areas in AI, Machine Learning, Data Science, and Business Analytics.

Teaching

COURSES

2023-24

- Introduction to Optimization: ENGR 62, MS&E 111, MS&E 211 (Aut)
- Linear Programming: MS&E 310 (Aut)
- Optimization in Data Science and Machine Learning: MS&E 314 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Sirui Lin, Haoran Xu

Publications

PRESENTATIONS

- Various Topics - Various Institutions (1/1/2020 - 3/1/2024)