

Yiou Li

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Department of Mathematical Sciences,
DePaul University, Chicago, IL.

EDUCATION

Ph.D., Aug 2009-Aug 2014, Department of Applied Mathematics, Illinois Institute of Technology, Chicago, IL

Major: Applied Mathematics.

Adviser: Fred J. Hickernell, Professor, Vice Provost for research.

Co-adviser: Lulu Kang, Associate Professor.

M.S. in Mathematical Finance, Aug 2007-July 2009.

Stuart School of Business, Illinois Institute of Technology, Chicago, IL.

B.S. in Information Engineering, Sep 2003-July 2007.

Chu Kechen Honors College, Zhejiang University, Hangzhou, China.

RESEARCH INTERESTS

My research interests are in statistics and computational mathematics. Specifically, I am interested in developing new theories and methodologies in the statistical design of experiments, statistical learning, uncertainty quantification, and optimization. I am also passionate about and have been working on interdisciplinary topics that apply statistical modeling and data science in economics and finance. In particular, I am interested in, but not limited to the topics

- ◇ Statistical design of experiments,
- ◇ Design and analysis of computer simulation,
- ◇ Statistical modeling in economics and finance,
- ◇ Data analysis in various fields.

ACADEMIC POSITIONS

• DePaul University	Chicago, IL
<i>Associate Professor</i>	2022-Present
<i>Assistant Professor</i>	2016-2022
<i>Visiting Assistant Professor</i>	2014-2016
<i>Adjunct Instructor</i>	2013-2014

RESEARCH PAPERS

- *Published or Submitted:*

- [1] Yiou Li, Lulu Kang, Xinwei Deng, (2021), “A Maximin Φ_p -Efficient Design for Multivariate GLM” , *Statistica Sinica*, <https://doi.org/10.5705/ss.202020.0278>.
 - [2] Yiou Li, Lulu Kang, Xiao Huang, (2021), “Covariate Balancing Based on Kernel Density Estimates for Controlled Experiments” , *Journal of Statistical Theory and Related Fields*. 5 (2), 102-113.
 - [3] Haiying Wang, Ying Yuan, Yiou Li, Xunhong Wang, (2021), “Financial Contagion and Contagion Channels in the Forex Market: A New Approach via the Dynamic Mixture Copula-Extreme Value Theory”, *Economic Modelling*. 94, 401-414.
 - [4] Yiou Li, Xinwei Deng, (2021) “On Efficient Design of Pilot Experiment for Generalized Linear Models”, *Journal of Statistical Theory and Practice*. 15, 83. <https://doi.org/10.1007/s42519-021-00222-y>.
 - [5] Ying Yuan, Xiaoqian Fan, Yiou Li, (2021) “Do local and non-local retail investor attention impact stock returns differently?”, *Revision submitted to Pacific-Basin Finance Journal*.
 - [6] Yiou Li, Lulu Kang, Fred J. Hickernell, (2020), “Are Transformed Low Discrepancy Points Also Low Discrepancy?” *Contemporary Experimental Design, Multivariate Analysis and Data Mining, Springer*. 69-92.
 - [7] Yiou Li, Xinwei Deng, (2020), “An Efficient Algorithm for Elastic I-optimal Design of Generalized Linear Models” , *The Canadian Journal of Statistics*. 49 (2), 438-470.
 - [8] Yiou Li, Fred J. Hickernell, (2014), “Design of Experiments for Linear Regression Models When Gradient Information Is Available”, *Journal of Statistical Planning and Inference*. 144, 141-151.
 - [9] Yiou Li, Mihai Anitescu, Oleg Roderick and Fred J. Hickernell, (2011), “Orthogonal Bases for Polynomial Regression with Derivative Information in Uncertainty Quantification”, *International Journal for Uncertainty Quantification*. 1 (4): 297-320.
 - [10] Oleg Roderick, Mihai Anitescu, Yiou Li, Zhu Wang, (2010), “Polynomial Regression with Derivative Information for Uncertainty Analysis of Complex Simulation Models”, *The Workshop on Verification, Validation, and Uncertainty Analysis in High-performance Computing*.
 - [11] Ying Gao, Xiaoyuan Huang, Yiou Li, (2007), “LMI-Based Robust Optimization Model of Loan Portfolio”, *Journal of Northeastern University (Natural Science)*. 28, No.1: 137-140.
 - [12] Ying Gao, Yiou Li, Xiaoyuan Huang, (2007), “Portfolio Robust Optimization Model and Its Application”, *Journal of Systems Science & Information*. 5, 81.
- *Manuscripts in Progress:*
 - [13] Yiou Li, Lulu Kang, “A Discrepancy-Based Design for Controlled Experiments.”, *Under revision*.
 - [14] Yiou Li, Lulu Kang, “Dimension Reduction for Gaussian Process Models via Convex Combination of Low-Dim Kernels”, *in preparation*.
 - [15] Yiou Li, Xinwei Deng, “An R Package for Locally and Globally Φ_p -Optimal Designs of GLMs”, *in preparation*.

TEACHING EXPERIENCE

DePaul University

- ◇ MAT 136: Business Calculus Spring and Fall 2014
- ◇ MAT 137: Business Statistics Fall 2013, 2016; Winter 2017
- ◇ MAT 349: Applied Probability Spring 2019
- ◇ MAT 361: Theory of Interest Fall 2019
- ◇ MAT 451: Probability and Statistics I Fall 2015, 2020, 2021
- ◇ MAT 452/352: Probability and Statistics II Fall 2018-2021, Winter 2021, 2022
- ◇ MAT 453/353: Probability and Statistics III Winter 2022
- ◇ MAT 455/355: Stochastic Processes Winter 2015-2019, 2021
- ◇ MAT 464/364: Stochastic Risk Models Spring 2018
- ◇ MAT 459/359: Simulation Models/Monte Carlo Methods Spring 2015-2019, 2021, 2022
- ◇ MAT 460: Topics in Statistics Spring 2015
- ◇ MAT 461: Actuarial Science I: Theory of Interest Fall 2017
- ◇ MAT 526/326: Sample Survey Methods Spring 2017, 2018, 2021, 2022
- ◇ MAT 528/328: Design and Analysis of Experiments Winter 2015
- ◇ MAT 512/358: Applied Time Series and Forecasting (Financial Time Series Analysis)
Winter 2014, 2015, 2017-2019
- ◇ MAT 515: Financial Modeling Spring 2022
- ◇ IT 403: Statistics and Data Analysis Fall 2018
- ◇ CSC 521: Monte Carlo Algorithms Spring 2017

STUDENTS SUPERVISED AT DEPAUL

- ◇ Jeffrey Sevener - Independent Master's Study - Financial Time Series Analysis Fall 2017
- ◇ Carmen Valencia - Independent Bachelor's Study Spring 2019
- Sampling Theory and Methods
- ◇ Eleni Bjorklund - Independent Bachelor's Study Summer 2019
- Sampling Theory and Methods
- ◇ Shuting Chen - Independent Master's Study - Stochastic Processes Fall 2019
- ◇ Gerardo Sandoval - Independent Master's Study - Financial Modeling Spring 2022

HONORS AND AWARDS

- ◇ Faculty Summer Research Grant 2017,2021, College of Science and Health, DePaul University
- ◇ Applied Math Menger Student Award, Department of Applied Mathematics, Illinois Institute of Technology, 2013.
- ◇ Applied Math Teaching Assistant Award, Illinois Institute of Technology, 2013.

- ◇ Design and Analysis of Experiments Conference Student Scholarship Award, Athens, GA, 2012 .
- ◇ 2nd Place of Student Research Posters Competition, Department of Applied Mathematics, Illinois Institute of Technology, 2014, 2012, 2011, 2010.
- ◇ Zhejiang University Excellent Graduate, Zhejiang University, 2007.
- ◇ Zhejiang University Academic Honors and Excellent Student Honors, Zhejiang University, 2005, 2004.

RESEARCH PRESENTATIONS & POSTERS

- ◇ An Efficient Design of Pilot Experiments for Generalized Linear Models
Computational Mathematics & Statistics Seminar, Illinois Institute of Technology, Chicago, IL, Feb. 2021.
- ◇ How to Prove Causation? Experiment Vs. Observational Study
Math Club, DePaul University, Chicago, IL, Oct. 2020.
- ◇ A Maximin Φ_p -Efficient Design for Multivariate GLM
Computational Mathematics & Statistics Seminar, Illinois Institute of Technology, Chicago, IL, Sep. 2020.
- ◇ A Discrepancy-Based Design for Controlled Experiments
IFORMS, Seattle, Oct. 2019.
- ◇ A Discrepancy-Based Design for A/B Testing Experiments
International Conference on Econometrics and Statistics (EcoSta 2019), Taiwan, Jun. 2019.
- ◇ EI-Optimal Design of Generalized Linear Models: Can We Achieve Efficiency, Simplicity, Feasibility and Convergence at the Same Time?
International Conference on Design of Experiments (ICODOE 2019), Memphis, TN, May 2019.
- ◇ From Approximation Error to Design of Experiments
Math Club, DePaul University, Chicago, IL, Feb. 2019.
- ◇ A Discrepancy-Based Design for A/B Testing Experiments
2018 Joint Research Conference on Statistics in Quality, Industry and Technology, Santa Fe, New Mexico, Jun. 2018.
- ◇ On I-Optimal Designs for Generalized Linear Models: An Efficient Algorithm via General Equivalence Theory
Computational Mathematics & Statistics Seminar, Illinois Institute of Technology, Chicago, IL, Apr. 2018.
- ◇ On I-Optimal Designs for Generalized Linear Models: An Efficient Algorithm via General Equivalence Theory
Statistics Seminar, University of Illinois at Chicago, Chicago, IL, Mar. 2018.

- ◇ Robust Design of Generalized Linear Models Under I-Optimality
The Design and Analysis of Experiments Conference 2017, UCLA, Los Angeles, CA, Oct. 2017.
- ◇ A Sequential Algorithm to Construct Local I-optimal Design of Generalized Linear Models
Computational Math & Statistics Seminar, Illinois Institute of Technology, Chicago, IL, Oct. 2017.
- ◇ Optimal Placement of Wind Turbines for a Wind Farm Using Particle Swarm Optimization
Conference on Data Analysis 2014, Santa Fe, NM, Mar. 2014.
- ◇ Design of Experiments when Gradient Information Is Available
The Design and Analysis of Experiments Conference 2012, Athens, GA, Oct. 2012.
- ◇ Uncertainty Quantification of Nuclear Engineering Models: Orthogonal Basis for Polynomial Regression with Derivative Information
International Conference on Design of Experiments, Memphis, TN, May 2011.

SERVICE AT DEPAUL
UNIVERSITY LEVEL

- ◇ Academic Integrity Board (CSH Representative) Starting Fall 2022
- ◇ Liberal Studies Council Committee (CSH Alternate) Winter 2021 - Present

COLLEGE LEVEL

- ◇ CSH Teaching and Learning Committee Fall 2021 - Present

DEPARTMENTAL LEVEL

- ◇ Faculty Adviser of ASA-STATCOM at DePaul Fall 2015 - Present
- ◇ Faculty Adviser of Statistical Consulting Center Winter 2017 - Present
- ◇ Coordinator of Analysis and Modeling Seminar Fall 2018 - Present
- ◇ Hiring Committee 2017, 2018, 2021
- ◇ Adjunct Faculty Evaluation Committee Fall 2016 - Present
- ◇ Master of Science Committee Fall 2016 - Present
- ◇ Website & Technology Committee Fall 2018 - Present
- ◇ Data Science Degree Committee Fall 2018 - Present
- ◇ Interim Program Director of B.S. in Actuarial Science Fall 2019 - Spring 2020
- ◇ Co-Adviser of DePaul Actuarial Club Fall 2019 - Spring 2020
- ◇ Program of Actuarial Science Committee Fall 2020 - Present

◇ MAT 137 Coordination Committee Chair

Fall 2021 - Present

PROFESSIONAL

◇ Referee work:

- Journal of American Statistical Association
- Statistica Sinica
- Technometrics
- Journal of Complexity
- Metrika
- Statistical Papers
- Journal of Quality Technology
- Journal of Statistical Theory and Practice
- Statistical Theory and Related Fields
- Journal of the Korean Statistical Society
- Science China Mathematics

◇ Conference organizing committee and scientific committee, The 56th Actuarial Research Conference, August, 2021

CERTIFICATES

- ◇ Passed Actuarial Exams P, FM, IFM, C(STAM), SRM
- ◇ Passed CFA Exam Level I

PROFESSIONAL SOCIETY ACTIVITIES

- ◇ American Statistical Association (ASA)
- ◇ Institute for Operations Research and the Management Sciences-Quality Statistics and Reliability Subdivision (INFORMS-QSR)
- ◇ Society for Industrial and Applied Mathematics (SIAM)