Liang DING

<u>**Contact**</u>	School of Data Science Fudan University Yanpu District, Shanghai, China *E-mail:* liang_ding@fudan.edu.cn *Voice:* +86 18680588194

<u>**Interests**</u>   High-Dimensional Simulation Optimization, Gaussian Processes, Statistical Learning.

<u>**Appointment**</u>

Fudan University, Shanghai

Assistant Professor in School of Data Science   Feb 2023-present

Hong Kong University, Hong Kong, China

Senior Research Associate in Business School   Oct 2022-Feb 2023
Host: Prof. Xiaowei Zhang

Texas A&M University, College Station, TX

Postdoctoral Fellow in Industrial & Systems Engineering   Oct 2019-July 2022
Host: Prof. Rui Tuo
Joint Postdoctoral Fellow in TAMIDS   Oct 2020-Sept 2021
Host: Prof. Shahin Shahrampour

Georgia Institute of Technology, Atlanta, GA

Visiting Scholar in Industrial & Systems Engineering   March 2018-Oct 2019
Host: Prof. C. F. Jeff Wu

<u>**Education**</u>   **Hong Kong University of Science and Technology**, Hong Kong, China

Ph.D., Operations Research   Nov 2019

- Hong Kong PhD Fellowship
- Oversea Scholarship
- Advisor: Prof. Xiaowei Zhang
- Thesis : "Scalable Modeling and Computation for High Dimensional Gaussian Processes"

University of Toronto, Toronto, ON, Canada

B.S., Double Major: Applied Mathematics & Computer Science   Jun 2015

- The Prince of Wales Prize in Mathematics
- Provost's Scholar

<u>**Publications**</u>   *1. A Sparse Expansion for Deep Gaussian Processes*
- **Liang Ding**, Rui Tuo, Shahin Shahrampour
- *IISE Transactions*, accepted

2. Sample and Computationally Efficient Simulation Metamodeling in High Dimensions
- **Liang Ding**, Xiaowei Zhang
- *Operations Research*, Forthcoming

3. Kernel Packet: An Exact and Scalable Solver for Gaussian Process Regression with Matérn Correlations
- Haoyuan Chen, **Liang Ding**, Rui Tuo (The first two authors contribute equally)

- *Journal of Machine Learning Research* , 23(127): 1-32, 2022
4. *Knowledge Gradient for Selection with Covariates: Consistency and Computation*
- **Liang Ding**, L. Jeff Hong, Haihui Shen, Xiaowei Zhang
- *Naval Research Logistics*, 69(3):496–507
5. *Generalization Guarantees for Sparse Kernel Approximation with Entropic Optimal Features*
- **Liang Ding**, Rui Tuo, Shahin Shahrampour
- *International Conference on Machine Learning (ICML),* 2020, 2875-2884
6. *Sequential Sampling for Bayesian Robust Ranking and Selection*
- Xiaowei Zhang, **Liang Ding**
- *Proceedings of the 2016 Winter Simulation Conference*, 2016, 758-769

<u>Under Review</u>

1. *mcGP: Mesh-Clustered Gaussian Process Emulator for PDE systems*
- Chih-Li Sung, Wnenjia Wang, **Liang Ding**, Xingjian Wang
- *Technometrics*, major revision
2. *Random Smoothing Regularization in Kernel Gradient Descent Learning*
- **Liang Ding**, Tianyang Hu, Jiahang Jiang, Donghao Li, Wenjia Wang, Yuan Yao
- Submitted to *Journal of Machine Learning Research*

Working Papers

1. *Representing additive Gaussian Processes by Sparse Matrices*
- Lu Zou, Haoyuan Chen **Liang Ding**
- Ready to submit
2. *High-Dimensional Simulation Optimization via Brownian Fields on Sparse Grids*
- **Liang Ding**, Rui Tuo, Xiaowei Zhang
- *arXiv*: 2107.08595
3. *High-Dimensional Non-Parametric Density Estimation in Mixed Sobolev Spaces*
- **Liang Ding** Wenjia Wang, Lu Zou, Rui Tuo, Shahin Shahrampour
- *arXiv*: 2006.03696
4. *BdryGP: a new Gaussian process model for incorporating boundary information*
- **Liang Ding**, Simon Mak, C. F. Jeff Wu
- *arXiv:* 1908.08868
- Finalist, 2019 WuFest Best Poster Award

<u>Talks</u>

- *IOS 2022*, Section on Algorithms in Global Optimization
- *TAMIDS 2021 Research Conference*, TAMIDS Post-doc Program
- *INFORMS Annual Meeting 2020*, Section on Experimental Design
- *INFORMS Annual Meeting 2019*, Section on Experimental Design
- *IMS/ASA Spring Research Conference 2019*, Section on Design and Analysis
- *INFORMS Winter Simulation Conference 2016*, Section on Ranking and Selection

<u>Teaching</u>

Texas A&M University, Texas, U.S.

Teaching Assistant
- ISEN619 Analysis and Prediction

Hong Kong University of Science and Technology, Hong Kong, China

Teaching Assistant
- IEDA 4130 - System Simulation
- IEDA 3010 - Operations Research I