Chenyu Wu

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EDUCATION

Doctor of Philosophy, Industrial and Systems Engineering **2020 - Present**
University of Minnesota-Twin Cities *Minneapolis, MN*
GPA: 3.76/4

Bachelor of Science, Mathematics **2016 - 2020**
Rensselaer Polytechnic Institute *Troy, NY*
GPA: 3.76/4

RESEARCH EXPERIENCE

Graduate Research Assistant, Advisor: Kevin Leder **May 2021 - Present**
University of Minnesota-Twin Cities, Industrial and Systems Engineering *Minneapolis, MN*
- Stochastic Simulation, Statistical Inference, Optimization, Experimental Design
- Use stochastic simulated data to investigate the statistical model

Undergraduate Research Assistant, Advisor: Yangyang Xu **Sep 2019 - May 2020**
Rensselaer Polytechnic Institute *Troy, NY*
- Numerical Optimization
- Use randomly generated data to investigate the performance of the newly proposed algorithms

TEACHING EXPERIENCE

Teaching Assistant, **IE 3521: Stats, Quality, &Realiability** **Sep 2020 - May 2021**
University of Minnesota-Twin Cities *Minneapolis, MN*
- Communicate with the undergraduate grader to grade the score
- Provide the grading outline and grade the exam

RELEVANT COURSE

Industrial System and Engineering
- Optimization
- Optimization in Machine Learning
- Modern Nonconvex and Nondifferentiable Optimization with applications in Statistical Learning
- Discrete Optimization
- Stochastic Processes and Queueing Systems
- Decision Analysis
- Production Planning and Inventory Control

Math
- Deep Learning in precision medicine
- Theory of Probability Including Measure Theory
- Mathematics of Data Science

Computer Science

- Machine Learning: Analysis and Methods

Statistic

- Designing Experiments

SKILLS

Programming/Software: MATLAB, Python, R, C/C++
Language: English(fluent), Chinese(native)

LEADERSHIP AND OUTREACH EXPERIENCE

President **Aug 2022 - Present**
INFORMS Student Chapter at UMN *Minneapolis, MN*

- Organize Bi-weekly meetings
- Communicate with INFORMS officer

Co-President **Sep 2018 - May 2019**
Rensselaer Polytechnic Institute Table-tennis Team *Troy, NY*

- Organize Weekly meetings
- Led team to participate in the NCTTA tournament

AWARDS

- **The Max Hirsch Prize** **2020**
  Rensselaer Polytechnic Institute: Mathematical Science *Troy, NY*
- **Honorable Mention** **2019**
  COMAP Mathematical Contest in Modeling

PUBLICATIONS

- C. Wu and Y. Xu, "Greedy coordinate descent method on non-negative quadratic programming," *2020 IEEE 11th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, 2020
  - Implement the Greedy Coordinate Descent Algorithm in MATLAB and C
  - Design an experiment for testing its performance in solving the non-negative quadratic programming problems
- Wu, C., Gunnarsson, E.B., Myklebust, E.M., Kohn-Luque, A., Enserink, J.M., Tadele, D.S., Frigessi, A., Foo, J., Leder, K.,"Using birth-death processes to infer tumor subpopulation structure from live-cell imaging drug screening data," *preprint.*
  - Use the multi-type branching process to suggest a statistical model that fits the mixture of cancer cell growth
  - Apply the optimization solver to find the maximum likelihood estimator
  - Test and analyze the statistical model using both simulated data and practical HTDS data

SELECTED PRESENTATIONS

- *Sequential Bayesian Experimental Design for Stochastic Mixture Cancer Cell Model*
  - ISyE research presentation at UMN, Minneapolis, Sep 2022
  - The recent development of Bayesian Experimental Design and how to extend it to the sequential optimal experimental design problem
- Bayesian Optimization
  - ISyE reading group presentation at UMN, Minneapolis, Oct 2021
  - Introduction to the Bayesian Optimization