Jinghong Miao

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EDUCATION

Georgia Institute of Technology, Atlanta, Georgia August 2021 – present
- MS in Operations Research, School of Industrial and Systems Engineering

The University of Chicago, Chicago, Illinois September 2017 – June 2021
- B.S. in Mathematics, Minor in Cinema and Media Studies
- Dean's List of the College 2017 – 2019
- Relevant Coursework: Honors Calculus, Analysis in Rn, Abstract Linear Algebra, Introduction to Mathematical Probability, Discrete Mathematics, Basic Theory of ODEs, Markov Chains, Martingales, and Brownian Motion, Introduction to Mathematical Modeling, Advanced Numerical Analysis, Statistical Theory/Method, Introduction to Computer Science (DrRacket and C), Data Science for Computer Scientists (Python)

RESEARCH & EXPERIENCE

Undergraduate Researcher, *UChicago Booth School of Business* October – December 2020
- Designed and implemented discrete-event simulations of an overloaded M/GI/N + GI queueing model, a multi-server queueing system with a probability of customers reneging
- Ran simulations with different combinations of probability distributions for reneging time and service rate; produced steady-state results for reneging percentage, expected queue length, and variance of queue length to assist Prof. Amy Ward's research

UChicago Mathematics REU, *Participant* June – August 2020
- Studied related materials and met weekly with a PhD student mentor to learn about viscosity theory and viscosity solutions as "weak solutions" to partial differential equations
- Completed proofs to show that properties related to monotonicity and Lipschitz continuity "in the viscosity sense" are equivalent to such properties in the literal sense
- Used homogenization to show that distance functions are viscosity solutions of eikonal equations, a class of nonlinear PDEs related to wave propagation
- Culminated research with a nineteen-page expository paper titled "Viscosity Solutions of the Eikonal Equations"

TEACHING EXPERIENCE

Young Scholars Program at UChicago, *Mentor* July 2020
- Mentored a group of four eleventh graders in a four-week math program intended to provide a deep mathematical experience
- Prepared for discussion sessions by designing appropriate steps to navigate students through their first proof-based class; led daily one-hour breakout sessions to work on proofs in algebraic number theory, including topics such as Euclidean algorithm, cyclotomic polynomials, and Gaussian integers

UChicago Math Department, *VCA* October 2018 – March 2019
- Graded weekly assignment for MATH 152-153 Calculus II-III
- Answered questions from students; summarized common mistakes in the assignments and shared with the instructor though weekly communications

LEADERSHIP & ACTIVITIES

UChicago Guild of Carillonneurs, *Auditions Director* January 2018 – June 2021
- Led tours at Rockefeller Memorial Chapel to introduce the architecture and the carillon; perform various genres of carillon music in weekly recitals
- Scheduled lessons for eighty students looking to join the guild and supervised the seven-week audition process; gave weekly music lessons to auditioning students

Documentary "Chinatown", *Producer* October 2019 – March 2020
- Researched Chicago's Chinatown for potential topics; reached out and maintained contact with six social actors to arrange shooting plans; conducted interviews
- Collaborated with crew members to draft interview questions, decide on structural and thematic ideas; assisted camera, sound, and editing

LANGUAGE & SKILLS

- Mandarin Chinese (native proficiency) and English (professional proficiency)
- Programming skills: C, Python