Ziye(Gaven) Ma

ELECTRICAL ENGINEERING AND COMPUTER SCIENCE · UC BERKELEY

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Education

University of California, Berkeley
Berkeley, CA, United States

PH.D IN ELECTRICAL ENGINEERING AND COMPUTER SCIENCE
Sep.2019 - Now

- Research Interests: Mathematical Optimization, Machine Learning, Robust Estimation
- Research Advisor: Somayeh Sojoudi

University of California, Berkeley
Berkeley, CA, United States

M.S. IN ELECTRICAL ENGINEERING AND COMPUTER SCIENCE
Sep.2019 - Dec.2020

- Thesis: Tightening the SDP Relaxation Gap in Neural Network Verification
- GPA:3.96

University of Toronto
Toronto, ON, Canada

B.A.SC IN ENGINEERING SCIENCE, MAJOR IN ROBOTICS ENGINEERING
Sep.2014 - Jun.2019

- cGPA:3.89, Major GPA:3.95
- Highest Ranking: 3/288

Publication

Semidefinite Programming versus Burer-Monteiro Factorization for Matrix Sensing

BATURALP YALCIN*, ZIYE MA*, JAVAD LAVAEI, SOMAYEH SOJOUDI(*EQUAL CONTRIBUTION)
2022

- Association for the Advancement of Artificial Intelligence(AAAI) 2023. Accepted, to appear

Noisy Low-rank Matrix Optimization: Geometry of Local Minima and Convergence Rate

ZIYE MA, SOMAYEH SOJOUDI
2022

- AISTATS. Under review.

Geometric Analysis of Noisy Low-rank Matrix Recovery in the Exact Parameterized and the Overparameterized Regimes

ZIYE MA*, YINGJIE BI*, JAVAD LAVAEI, SOMAYEH SOJOUDI (*EQUAL CONTRIBUTION)
2021

- INFORMS Journal on Optimization. In Review

Sharp Restricted Isometry Property Bounds for Low-rank Matrix Recovery Problems with Corrupted Measurements

ZIYE MA*, YINGJIE BI*, JAVAD LAVAEI, SOMAYEH SOJOUDI(*EQUAL CONTRIBUTION)
2021

- Association for the Advancement of Artificial Intelligence(AAAI) 2022

Partition-Based Convex Relaxations for Certifying the Robustness of ReLU Neural Networks

BRENDON ANDERSON, ZIYE MA, JINGQI LI, SOMAYEH SOJOUDI
2021

- Journal of Machine Learning Research. In Review

A Sequential Framework Towards an Exact SDP Verification of Neural Networks

Ziye Ma, Somayeh Sojoudi   *2021*

- IEEE Conference on Data Science and Advanced Analytics

Tightened Convex Relaxations for Neural Network Robustness Certification

Brendon Anderson, Ziye Ma, Jingqi Li, Somayeh Sojoudi   *2020*

- IEEE Conference on Decision and Control

Certifiably Globally Optimal Extrinsic Calibration from Per-Sensor Egomotion

Matthew Giamou, Ziye Ma, Valentin Peretroukhin, Jonathan Kelly   *2018*

- IEEE Robotics and Automation Letters

Experience

Advanced Micro Devices, Inc   *Markham, ON*
Software Engineer, Intern   *May.2017 - May.2018*

- Software Engineer in the Apple Multimedia Team.
- Developed MacOS application for internal use with C++ and Obj-C
- Dealt with video decoding/encoding and video processing.
- Python scripting for data analysis.

Teaching & Academic Service

Teaching

CS189/289 Introduction to Machine Learning   *UC Berkeley*
Graduate Student Instructor (GSI)   *Spring 2021, Spring 2022*

- Responsible for holding office hours and discussion sessions.
- Design and grade homework/midterm/exams.

Academic Service

2021	**Reviewer**, Journal of Machine Learning Research	
2020	**Reviewer**, International Conference on Artificial Intelligence and Statistics	

Awards & Certificates

Honors & Awards

2018	**First Place**, Daisy Intelligence Hackathon	*Toronto, ON*
2016	**Sullivan Memorial Scholarship**, University of Toronto	*Toronto, ON*
2015	**Dhillon Satinder Kaur Memorial Scholarship**, University of Toronto	*Toronto, ON*
2014	**Richardson R. John Memorial Scholarship**, University of Toronto	*Toronto, ON*
2014-now	**Dean's Honour List(every term)**, University of Toronto	*Toronto, ON*
2014	**UofT Scholar (Academic Ledger #1)**, University of Toronto	*Toronto, ON*
2011	**Gold Medalist**, Canadian Intermediate Mathematics Contest	*National*
2014	**Top 50**, Sir Isaac Newton Contest	*National*

Certificates

2011	**Level Eight Certificate in Piano**, Royal Conservatory of Music	*Markham, ON*
2010	**N2 certificate for Japanese**, Japanese-Language Proficiency Test	*Beijing, China*