

# JIANHAO MA

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## RESEARCH INTERESTS

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General optimization and generalization in machine learning.

## EDUCATION

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### University of Michigan, Ann Arbor

Department of Industrial and Operational Engineering  
Advisor: Prof. Salar Fattahi

*January 2021 - present*

Ph.D. student

### Tsinghua University

B.E. in Industrial Engineering and B.S. in mathematics

*September 2016 - June 2020*

### University of California, Berkeley

Visiting student in the Department of Statistics

*January 2019 - August 2019*

## INTERNSHIP

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### AI Lab, ByteDance

Machine learning engineer intern in deep reinforcement learning.

*April 2020 - July 2020*

## PREPRINTS AND PUBLICATIONS

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**Jianhao Ma**, Salar Fattahi, “Blessing of Nonconvexity in Deep Linear Models: Depth Flattens the Optimization Landscape Around the True Solution”, NeurIPS, 2022.

**Jianhao Ma**, Salar Fattahi, “Global Convergence of Sub-gradient Method for Robust Matrix Recovery: Small Initialization, Noisy Measurements, and Over-parameterization”, submitted for publication, 2022.

Jiaye Teng\*, **Jianhao Ma\***, Yang Yuan, “Towards Understanding Generalization via Decomposing Excess Risk Dynamics”, ICLR, 2022.

**Jianhao Ma**, Salar Fattahi, “Sign-RIP: A Robust Restricted Isometry Property for Low-rank Matrix Recovery”, NeurIPS Workshop on Optimization for Machine Learning, 2021.

## ACTIVITIES/ACADEMIC SERVICE

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### Organizer

Co-organizer of the session “Recent Advances in Data-Driven Nonconvex Optimization” in INFORMS Annual Meeting, Anaheim, CA, October 2021.

### Reviewer

ICML, NeurIPS, ICLR.

### Invited Talk/Presentation

Overparameterized Robust Matrix Recovery. INFORMS Annual Meeting, Anaheim, CA, October 2021.

Overparameterized Robust Matrix Recovery. MOPTA Conference, Bethlehem, PA, August 2021.

## PROFESSIONAL SKILLS

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**Programming Languages**

Python, Matlab, R.