JINGMING YAN

jingmy1@uci.edu
https://jingming-yan.github.io

EDUCATION

University of California, Irvine *September 2023 - Present*
Ph.D. in the department of Computer Science

- Advised by Prof. Ioannis Panageas
- My research lies at the intersection of Algorithmic Game Theory, Min-Max Optimization, Reinforcement Learning, and Computational Complexity.

University of California, Irvine *September 2019 - June 2023*
B.S. in the department of Mathematics

- GPA: 4.0/4.0
- Minor: Information and Computer Science

RESEARCH INTERESTS

Min-Max Optimization, Non-Convex Optimization, Complexity Theory, Stochastic Games, Multi-Agent Reinforcement Learning, Learning in Games

PUBLICATIONS

1. **The Complexity of Symmetric Equilibria in Min-Max Optimization and Team Zero-Sum Games**
   Ioannis Anagnostides, Ioannis Panageas, Tuomas Sandholm, **Jingming Yan**
   NeurIPS 2025 Spotlight
2. **The Complexity of Finding Local Optima in Contrastive Learning**
   Jingming Yan, Yiyuan Luo, Vaggos Chatziafratis, Ioannis Panageas, Parnian Shakhar, Stelios Andrew Stavroulakis
   NeurIPS 2025
3. **Learning Equilibria in Adversarial Team Markov Games: A Nonconvex-Hidden-Concave Min-Max Optimization Problem**
   Fivos Kalogiannis, **Jingming Yan**, Ioannis Panageas
   NeurIPS 2024

EXPERIENCE

Research Intern at Archimedes Research Unit *June 2025 - August 2025*
Athens, Greece

- Conducted research on designing efficient methods and analyzing the computational complexity of solving variational inequalities in high-dimensional domains
- Developed beyond-worst-case dynamics for local updates to ensure convergence in contrastive learning settings, and analyzed their convergence rates.
- Publication is currently under peer review

Research Intern at Archimedes Research Unit *June 2024 - August 2024*
Athens, Greece

- Researched on intractability and complexity of min-max optimization and team games
- Generated stimulated converging dynamic for first-order algorithms and applied in various settings

Undergraduate Research Experience *September 2022 - June 2023*
Supervisor: Prof. Ioannis Panageas

- Analyzed the effect of applying different regularizers in min-max optimization
- Systematically learned algorithmic game theory, stochastic games, min-max optimization tools (e.g. Optimistic GDA), nonconvex optimization techniques (e.g. Moreau Envelope)
- Implemented code that studied the convergence in stochastic two-player zero-sum games and stochastic potential games.

Audio Separation Model *March 2022 - June 2022*

- Constructed a U-net encoder-decoder model for Audio Source Separation on MUSDB18 dataset.
- Implemented a conditional GAN model to improve the performance of the generator and achieved higher resolution of the output.

ACADEMIC SERVICES

Reviewer for: AISTATS 2024, 2025, 2026; AAAI 2025; ICML 2024; NeurIPS 2024, 2025; ICLR 2025, 2026

TEACHING EXPERIENCE

COMPSCI-161 Design & Analysis of Algorithms	*Spring 2025*
COMPSCI-178: Machine Learning and Data Mining	*Winter 2025*
ICS-46: Data Structure Implementation and Analysis	*Fall 2024*
COMPSCI-161 Design & Analysis of Algorithms	*Winter 2024*
ICS-46: Data Structure Implementation and Analysis	*Fall 2023*
COMPSCI-161 Design & Analysis of Algorithms	*Spring 2023*

SKILLS

Programming : C++, Python, Pytorch, Tenserflow, MATLAB, Mathematica, R, LaTeX

Languages : Chinese (native), English