

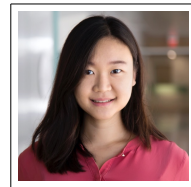
# Xintong Wang

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## EDUCATION

- 2015 – 2021 **University of Michigan, Ann Arbor**, *Ph.D. in Computer Science and Engineering*.
  - Track: Artificial Intelligence
  - Advisor: Michael P. Wellman
- 2015 – 2018 **University of Michigan, Ann Arbor**, *M.Sc. in Computer Science and Engineering*.
- 2011 – 2015 **Washington University in St. Louis**, *B.Sc. in Computer Science*.
  - Second major in Applied Mathematics, the College of Arts & Sciences
  - Second major in Finance, the Olin Business School
  - *magna cum lauda*

## PROFESSIONAL EXPERIENCE

- Feb 2021 – **Postdoctoral Fellow**, *Harvard University, Cambridge, MA*.
  - EconCS Group, School of Engineering and Applied Sciences
  - Host: David C. Parkes
- Summer 2019 **Research Intern**, *J.P. Morgan AI Research, New York City, NY*.
  - Mentor: Tucker Hybinette Balch, Manuela Veloso
- Summer 2018 **Research Intern**, *Microsoft Research, New York City, NY*.
  - Mentors: David M. Pennock, David M. Rothschild
- Summer 2014 **Algorithmic Trading Intern**, *IMC Financial Markets, Chicago, IL*.
  - Mentor: Floris Ouwendijk

## RESEARCH INTERESTS

I develop computational methods to model and analyze complex agent behaviors for the design of efficient market-based algorithmic systems. I study how to leverage data (both simulated and from real marketplaces) to understand agent behavior and inform design decisions, such as market operations, information disclosure policies, and regulatory interventions.

- Methods: AI and machine learning, optimization, multi-agent systems, economics (game theory).
- Application areas: Economic platforms, prediction markets, financial markets and DeFi.

## PUBLICATIONS (\*: EQUAL CONTRIBUTION)

### JOURNAL PUBLICATIONS

#### **Spoofing the Limit Order Book: A Strategic Agent-Based Analysis**

Xintong Wang, Christopher Hoang, Yevgeniy Vorobeychik, Michael P. Wellman  
*Games* 2021, 12(2), 46.

## CONFERENCE PUBLICATIONS

### **Platform Behavior under Market Shocks: A Simulation Framework and Reinforcement Learning Based Study**

Xintong Wang, Gary Qiurui Ma, Alon Eden, Clara Li, Alexander Trott, Stephan Zheng, David C. Parkes

(WWW 2023) *The 2023 ACM Web Conference, To Appear.*

### **Differential Liquidity Provision in Uniswap v3 and Implications for Contract Design**

Zhou Fan, Francisco Marmolejo-Cossío, Ben Altschuler, He Sun, Xintong Wang, David C. Parkes

(ICAF 2022) *3rd ACM International Conference on AI in Finance.*

### **Designing a Combinatorial Financial Options Market**

Xintong Wang, David M. Pennock, Nikhil R. Devanur, David M. Rothschild, Biaoshuai Tao, Michael P. Wellman

(EC 2021) *23rd ACM Conference on Economics and Computation.*

### **Log-time Prediction Markets for Interval Securities**

Miroslav Dudík\*, Xintong Wang\*, David M. Pennock, David M. Rothschild

(AAMAS 2021) *20th International Conference on Autonomous Agents and Multiagent Systems.*

### **Market Manipulation: An Adversarial Learning Framework for Detection and Evasion**

Xintong Wang, Michael P. Wellman

(IJCAI 2020) *29th International Joint Conference on Artificial Intelligence.*

### **Generating Realistic Stock Market Order Streams**

Junyi Li, Xintong Wang, Yaoyang Lin, Arunesh Sinha, Michael P. Wellman

(AAAI 2020) *34th AAAI Conference on Artificial Intelligence.*

### **Learning-based Trading Strategies in the Face of Market Manipulation**

Xintong Wang, Christopher Hoang, Michael P. Wellman

(ICAF 2020) *1st ACM International Conference on AI in Finance.*

### **A Cloaking Mechanism to Mitigate Market Manipulation**

Xintong Wang, Yevgeniy Vorobeychik, Michael P. Wellman

(IJCAI 2018) *27th International Joint Conference on Artificial Intelligence.*

### **Spoofing the Limit Order Book: An Agent-based Model**

Xintong Wang, Michael P. Wellman

(AAMAS 2017) *16th International Conference on Autonomous Agents and Multiagent Systems.*

## WORKSHOP & CONSORTIUM PAPERS

### **Studies on the Computational Modeling and Design of Financial Markets**

Xintong Wang

*AAMAS 2019 Doctoral Consortium.*

### **Market Making with Liquidity Adaptation via Learning Rate Tuning**

Xintong Wang

*EC 2017 Workshop on Forecasting.*

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## HONORS & AWARDS

- 2022 **Rising Stars in Data Science**, *hosted by the University of Chicago.*
- 2020 **Finalist, CSE Graduate Student Honors Competition**, *University of Michigan, Ann Arbor.*
- 2019 **Rising Stars in EECS Workshop**, *hosted by the University of Illinois Urbana-Champaign.*
- 2017 **D. E. Shaw Exploration Fellowship.**
- 2015 **Distinction in Mathematics**, *Washington University in St. Louis.*
- 2014 **University Scholarship**, *Washington University in St. Louis.*

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## TEACHING & MENTORING EXPERIENCE

### TEACHING

#### University of Michigan, Ann Arbor

*Graduate Student Instructor*, EECS 203 Discrete Mathematics | Fall 2016

#### Washington University in St. Louis

*Teaching Assistant*, MEC 290 Microeconomics | Springs 2013, 2014, 2015

*Teaching Assistant*, MGT 100 Individual in a Managerial Environment | Falls 2012, 2013, 2014

### RESEARCH MENTORING

#### Harvard University

◦ David Assaraf, M.Sc. in Data Science | Spring 2022

*Co-advising* (with Prof. David C. Parkes), COMPSCI 299R Special Topics in Computer Science.  
Topic: Analyzing Amazon Basics data to model the platform's behavior on launching products.

◦ Gary Ma, Ph.D. student in Computer Science | 2021 – 2022

Topic: Modeling platform economies under the pandemic shock.

◦ Clara Li, B.Sc. in Computer Science | 2021 – 2022

Senior Thesis: Reinforcement learning for modeling platform economies under shock.

#### University of Michigan, Ann Arbor

◦ Christopher Hoang, B.Sc. in Computer Science | 2018 – 2020

*Co-advising* (with Prof. Michael P. Wellman), EECS 499 Undergraduate Independent Study.

Topic: Designing learning-based trading agents. Related publications: Games 2021, ICAIF 2020.

◦ Shashank Kedia, M.Sc. in Computer Science | Spring 2019

*Co-advising* (with Prof. Michael P. Wellman), EECS 599 Graduate Independent Study.

Topic: Generative models for agent-based activity traces.

◦ Junyi Li, M.Sc. in Computer Science | 2018 – 2019

Topic: Generative models for time series data (order streams). Related publications: AAI 2020.

◦ Yaoyang Lin, B.Sc. in Computer Science | 2018 – 2019

Topic: Simulation validation and generating time series data. Related publications: AAI 2020.

◦ Noah Fidel, B.Sc. in Data Science Engineering | 2017 – 2018

Topic: Simulation validation and learning from limit order book data.

◦ Meghana Somsaale, B.Sc. in Computer Science | 2017 – 2018

Topic: Evidence and patterns of market manipulation in crypto markets.

◦ Zheng Chen, B.Sc. in Computer Science | 2017 – 2018

Topic: Anomaly detection on time-series data.

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## SERVICE

### **Program Committee Member**

- AAAI Conference on Artificial Intelligence (AAAI), 2021–2023
- International Joint Conference on Artificial Intelligence (IJCAI), 2023
- ACM International Conference on AI in Finance (ICAIF), 2020–2022
- Workshop on Artificial Intelligence for Social Good (AI4SG), 2021

### **Workshop and Seminar Organization**

- Co-Chair, AMD Session on Financial Market Design, INFORMS Annual Meeting, 2021
- Organizer, AI Seminar, University of Michigan, 2018 – 2019

### **Conference Reviewing**

Conference on Autonomous Agents and Multiagent Systems (AAMAS); Conference on Artificial Intelligence, Ethics and Society (AIES); Conference on Economics and Computation (EC); Conference on Artificial Intelligence (IJCAI); Workshop on Matching Under Preferences (MATCH-UP); Conference on Web and Internet Economics (WINE); The Web Conference (WWW).

### **Journal Reviewing**

IEEE Intelligent Systems; Autonomous Agents and Multi-Agent Systems (JAAMAS)

### **Student Mentor**

- EC Mentoring Workshop, 2022
- The Ensemble of CSE Ladies+, University of Michigan, 2016 – 2020