

# Jibang Wu

## Curriculum Vitae

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🌐 <https://wujibang.com>

## Research Interests

- AI Alignment
- Reinforcement Learning
- Online Learning & Optimization
- Algorithmic Economics
- Design and Analysis of Algorithms
- E-Commerce & Recommendation System

My current research lies at the interface between game theory, learning theory and optimization, with the primary focus on modeling and solving multi-agent decision-making problems under complex, unknown environment. More broadly, I aim to **advance the design principles and approaches of intelligent systems towards strategic alignment** — a concept centered on *aligning the interests of all stakeholders to achieve mutually beneficial outcomes*. Towards this end, I am interested in developing practical techniques to 1) build **incentive-aware AI agents with strategic intelligence and rationalizable behaviors**; 2) align their economic incentives with users, model developers and data providers, **for more sustainable AI ecosystems**.

## Education

- 2022 – **Ph.D. in Computer Science**, advised by Prof. Haifeng Xu  
(Transferred) University of Chicago, Chicago, IL
- 2019 – 2022 University of Virginia, Charlottesville, VA
- 2018 – 2019 **M.S. in Computer Science**, advised by Prof. Hongning Wang  
University of Virginia, Charlottesville, VA  
Thesis: *Temporal Attention Mechanism for Sequential Recommendation* ↗
- 2015 – 2018 **B.A. in Computer Science**  
University of Virginia, Charlottesville, VA  
Echols Scholar, Dean's List in College of Arts & Science

## Publications

- Preprint 13 **Grounded Persuasive Language Generation for Automated Marketing.**  
**Jibang Wu**, Chenghao Yang, Simon Mahns, Chaoqi Wang, Zhu Hao, Fei Fang, Haifeng Xu.
- Preprint 12 **Contractual Online Learning: Pulling Arms with Invisible Hands.** ↗  
**Jibang Wu**, Siyu Chen, Huazheng Wang, Mengdi Wang, Haifeng Xu.
- Preprint 11 **A Truth Serum for Eliciting Self-Evaluations in Scientific Reviews.** ↗  
**Jibang Wu**, Haifeng Xu, Yifan Guo, Weijie Su.
- 10 **Generalized Principal-Agency: Contracts, Information, Games and Beyond.** ↗  
( $\alpha$ - $\beta$ ) Jiarui Gan, Minbiao Han, **Jibang Wu**, Haifeng Xu.  
In *Proceedings of the 20th Conference on Web and Internet Economics (WINE)*. 2024
- 9 **Auctioning with Strategically Reticent Bidders.** ↗  
**Jibang Wu**, Ashwinkumar Badanidiyuru, Haifeng Xu.  
In *Proceedings of the 20th Conference on Web and Internet Economics (WINE)*. 2024

- 8 **Robust Stackelberg Equilibria.** [↗](#)  
 $(\alpha\text{-}\beta)$  Jiarui Gan, Minbiao Han, **Jibang Wu**, Haifeng Xu.  
 In *Proceedings of the 24th ACM Conference on Economics and Computation (EC)*. 2023  
 Full version in submission to *Mathematical Programming*.
- 7 **Learning to Incentivize Information Acquisition.** [↗](#)  
 Siyu Chen, **Jibang Wu**, Yifan Wu, Zhuoran Yang.  
 In *International Conference on Machine Learning (ICML)*. 2023
- 6 **Inverse Game Theory for Stackelberg Games: the Blessing of Bounded Rationality.** [↗](#)  
**Jibang Wu**, Weiran Shen, Fei Fang, Haifeng Xu.  
 In *Advances in Neural Information Processing Systems (NeurIPS)*. 2022
- 5 **Sequential Information Design: Markov Persuasion Process and Its Reinforcement Learning.**[↗](#)  
**Jibang Wu**, Zixuan Zhang, Zhe Feng, Zhaoran Wang, Zhuoran Yang, Michael I. Jordan, Haifeng Xu.  
 In *Proceedings of the 23rd ACM Conference on Economics and Computation (EC)*. 2022
- 4 **Uncoupled Bandit Learning towards Rationalizability: Benchmarks, Barriers, and Algorithms.**[↗](#)  
 $(\alpha\text{-}\beta)$  **Jibang Wu**, Haifeng Xu, Fan Yao.  
 In *Conference on Learning Theory (COLT)*. 2022  
 Full version in submission to *Journal of Machine Learning Research* (under R&R).
- 3 **Least Square Calibration for Peer Reviews.** [↗](#)  
 $(\alpha\text{-}\beta)$  Sijun Tan, **Jibang Wu**, Xiaohui Bei, Haifeng Xu.  
 In *Advances in Neural Information Processing Systems (NeurIPS)*. 2021
- 2 **Category-aware Collaborative Sequential Recommendation.** [↗](#)  
 Cai, Renqin, **Jibang Wu**, Aidan San, Chong Wang, and Hongning Wang.  
 In *Proceedings of the 44th International ACM Conference on Information Retrieval (SIGIR)*. 2021
- 1 **A Contextualized Temporal Attention Mechanism for Sequential Recommendation.** [↗](#)  
**Jibang Wu**, Renqin Cai, Hongning Wang.  
 In *Proceedings of the ACM Web Conference (WWW)*. 2020

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## Fellowships and Awards

- 2024 **Stigler Center PhD Dissertation Award, \$5000**, Booth School of Business, University of Chicago.
- 2024 **AI Safety Research Fellowship, \$9000**, Existential Risk Laboratory (XLab), University of Chicago.
- 2022 **Crerar Fellowship**, Computer Science Department, University of Chicago.
- 2021 **Outstanding Graduate Teaching Assistant Award**, University of Virginia.
- 2019 **Doctoral Fellowship**, Computer Science Department, University of Virginia.
- 2018 **Academic Excellence Fellowship**, Computer Science Department, University of Virginia.
- 2018 **Louis T. Rader Undergraduate Research Award**, University of Virginia.
- 2018 **1st Place**, 2018 National Collegiate Cyber Defense Competition (CCDC), National Level.
- 2018 **Finalist, \$1500**, HooHacks, Major League Hacking **Demo** [↗](#).
- 2017 **Silver Medal**, 2017 International Collegiate Programming Contest (ICPC), Mid-Atlantic Regional.
- 2017 **Finalist, \$1500**, HooHacks, Major League Hacking **Demo** [↗](#).
- 2016 **1st place**, Microsoft College Coding Challenge, University of Virginia.
- 2016 **Best Data Visualization**, DataFest@UVA, American Statistical Association.

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## Tutorials

- Dec. 2024 **Principal-Agent Decision-Making Processes: Modeling, Optimization, and Learning** [↗](#).  
 (Upcoming) Co-organized with Jiarui Gan, Haifeng Xu at WINE 2024, Edingburgh, UK

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## Teaching Experience

- 2021 Spring **CS 6501 Learning and Game Theory**, *University of Virginia*.  
Teaching Assistant for Prof. Haifeng Xu
- 2020 Fall **CS 6161 Design & Analysis of Algorithm**, *University of Virginia*.  
Teaching Assistant for Prof. Haifeng Xu
- 2018 Fall **CS 6316 Machine Learning**, *University of Virginia*.  
Teaching Assistant for Prof. Rich Nguyen
- 2018 Fall **CS 6501 Information Retrieval**, *University of Virginia*.  
Teaching Assistant for Prof. Hongning Wang
- 2017 Spring - **CS 3330 Computer Architecture**, *University of Virginia*.  
2018 Fall Teaching Assistant for Prof. Charles Reiss
- 2016 Fall - **Math Tutoring Center**, *University of Virginia*.  
2017 Spring Calculus I, II & III, Probability, Linear Algebra & Complex Analysis

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## Mentoring Experience

- 2024 **Simon Mahns**, *Undergrad at the University of Chicago, now at Meta* .  
Grounded Persuasive Language Generation for Automated Marketing [13]
- 2024 **Lilian Zhao**, *Visiting student at the Data Science Institute, University of Chicago*.  
Design and Analysis of Trading Games, **Demo** ↗
- 2023 **Yifan Guo**, *Visiting student at the University of Chicago, now a PhD student at Stanford*.  
A Truth Serum for Eliciting Self-Evaluations in Scientific Reviews [11]
- 2022 **Param Damle**, *Undergrad at the University of Virginia, now at Jane Street*.  
Multi-Agent Reinforcement Learning for Iterative Reasoning, **Project Website** ↗
- 2022 **Gustavo Moreira**, *Undergrad at the University of Virginia, now at Epic*.  
Robust Stackelberg Equilibrium [8], Multi-Agent Reinforcement Learning for Iterative Reasoning
- 2021 **Sijun Tan**, *Undergrad at the University of Virginia, now a PhD student at UC Berkeley*.  
Least Square Calibration for Peer Reviews [3]

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## Industry Experience

- 2018 Summer **Jump Trading LLC.**, *Algorithmic Trader Intern*, Chicago, IL, USA.  
**Latency Management team**
- Built a low latency order gateway to FIX protocol based cryptocurrency exchanges.
  - Optimized columnar database for high-throughput query tasks under parallel filesystem.
- 2017 Summer **Uber Technologies Inc.**, *Software Engineer Intern*, San Francisco, CA, USA.  
**Restaurant Experience team**
- Maintained the Restaurant Dashboard and Restaurant Merchant Portal project supporting 10+ tablet models used by 6000+ restaurants from 100+ cities.
  - Developed restaurant sentiment analysis pipeline to integrate user feedback through in-app communication API to increase effective restaurant feedback rate.
- 2017 Spring **Tandem Medical LLC.**, *Head Developer*, Charlottesville, VA, USA.
- Co-founded a startup ↗ that envisions task/ticket-based internal hospital communications, received \$5000 funding from UVa iLab

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## Skills

- Programming **C/C++** ▪ **Javascript** ▪ **Python** ▪ Golang ▪ Assembly ▪ Matlab ▪ Java
- HPC **PyTorch** ▪ **Tensorflow** ▪ **JAX** ▪ **CUDA** ▪ OpenGL ▪ Pthreads ▪ MPI ▪ Gurobi ▪ NCL
- Web/Mobile **React/Redux** ▪ **React Native** ▪ **Swift** ▪ **Django** ▪ Objective-C
- System **OSX/Linux** ▪ Docker ▪ Elasticsearch ▪ Hadoop ▪ Redis ▪ Slurm
- Languages English ▪ Mandarin

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## Sponsorships

- 2023 **Travel Grant**, *Workshop on Foundation Models, Large Language Models, and Game Theory*, The Center for Discrete Mathematics and Theoretical Computer Science (DIMACS).
- 2023 **Travel Grant**, *Workshop on Algorithms, Approximation, and Learning in Market and Mechanism Design*, MSRI / Simons Laufer Mathematical Sciences Institute (SLMath).
- 2023 **Scholarship Attendee**, *OpenAI DevDay 2023*.
- 2022 **Travel Grant**, *DeepMind Award for COLT 2022*.
- 2020 **Travel Grant**, *The ACM Web Conference (WWW) 2020*.
- 2017 **Graduate School Application Scholarship**, *Vidya Balvantrai Shelat Fund*.
- 2016 **Scholarship Attendee**, *Apple WWDC16*.
- 2016 **Tom Tom Scholar**, *Charlottesville Founders Summit 2016*.

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## Professional Services

### Conference Program Committee / Reviewer

- 2021 – 2024 The ACM Conference on Economics and Computation (EC)
- 2021 – 2024 The ACM Symposium on Theory of Computing (STOC)
- 2021 – 2024 The Advances in Neural Information Processing Systems (NeurIPS)
- 2022 – 2024 The International Conference on Machine Learning (ICML)
- 2022 – 2025 The International Conference on Learning Representations (ICLR)
- 2021 – 2025 The AAAI Conference on Artificial Intelligence (AAAI)
- 2023 – 2025 The ACM Web Conference (WWW)
- 2020 – 2024 The International Joint Conference on Artificial Intelligence (IJCAI)
- 2020, 2023 The Workshop on Artificial Intelligence for Social Good (AI4SG)
- 2020, 2021 The International Conference on Autonomous Agents and Multiagent Systems (AAMAS)
- 2025 The International Conference on Artificial Intelligence and Statistics (AISTATS)
- 2025 The Conference on Innovations in Theoretical Computer Science (ITCS)
- 2025 The ACM-SIAM Symposium on Discrete Algorithms (SODA)
- 2024 The American Control Conference (ACC)
- 2022 The International Conference on Algorithmic Learning Theory (ALT)
- 2022 Conference on Game Theory and AI for Security (GameSec)
- 2021 The International Symposium on Algorithmic Game Theory (SAGT)
- 2021 The Conference on Web and Internet Economics (WINE)
- 2020 The ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)
- 2019 The ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR)

### Journal Refereeing

Mathematics of Operations Research (MOR), Artificial Intelligence (AI), ACM Transactions on Economics and Computation (TEAC)

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## Community Services

- 2022 – 2023 Student minister for UChicago Computer Science Department
- 2021 – 2022 Volunteer developer at Code for Charlottesville