

YICHI ZHANG

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EDUCATION

University of Michigan, Ann Arbor (Umich)

Sep 2019 - Present

Ph.D. in School of Information

Advisor: Prof. Grant Schoenebeck

Shanghai Jiao Tong University (SJTU)

Aug 2015 - Jun 2019

B.S. in Electronic Science and Engineering

Advisor: Prof. Xinbing Wang and Prof. Luoyi Fu

University of California, Los Angeles (UCLA)

Jul 2018 - Sep 2018

CSST (summer research program), Department of Computer Science

Advisor: Prof. Mario Gerla

EMPLOYMENT EXPERIENCES

Research Assistant, **University of Michigan**

Sep 2019 - Present

Algorithm Engineer Intern, **YITUTech**

Feb 2019 - May 2019

RESEARCH PROJECTS

Information Elicitation From Rowdy Crowds

WWW 21

With *Grant Schoenebeck and Fang-Yi Yu*

We consider the adversarial attack on crowdsourcing systems.

- Propose a framework for designing information elicitation mechanisms which can handle a fraction of adversarial agents who can collude and mess up the system.
- Based on the framework, use robust learning algorithms as the black box to design three mechanisms under two commonly used settings.
- Prove the truthfulness of the proposed mechanisms using probability theory and information theory as tools.

Is Winner-Take-All Optimal? Crowdsourcing As A Principal-Agent Problem

Under reviewing

With *Grant Schoenebeck*

We consider how to optimally pay the crowdsourcing workers given noisy measurements of their effort with rank-order mechanisms.

- Model crowdsourcing with monetary payments as a principal-agent problem with rank-order payments.
- Show that winner-take-all is not optimal not only when agents have non-linear utilities (risk/loss-averse) but also when agents have zero surplus (the IR constraint is binding).
- Implement the peer prediction mechanisms as running examples using real-data estimated ABM and provide insights on which to use in real-world applications.

A System-Level Analysis of Conference Peer Review using Agent-Based Modeling

To be submitted

With *David Kempe, Grant Schoenebeck and Fang-Yi Yu*

We build a theoretical framework and use the agent-based model to study the review process of a conference its influences on three parties who share diverse interests: the reviewers, the conference committee and the authors.

- Build a theoretical model that captures the strategic aspects of the authors who aim to game the conference' review process.

- With the agent-based model approach, identify the trade-off between the review resources and the utility of the conference.
- Study how systems parameters and review policies have on the trade-off.

COURSES (TAKEN)

Computer Science: machine learning, reinforcement learning, approximation algorithm, randomized algorithm.

Economics: advanced game theory (mechanism design), electronic commerce, digital public goods.

TEACHING

I'm a GSI of the following courses:

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| • SIADS 642: Deep Learning with Prof. Paramveer Dhillon. | Fall 2021 |
| • SIADS 652: Network Analysis with Prof. Daniel Romero. | Fall 2021 |

AWARDS

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|---|------|
| • The Web Conference Student Scholarship. | 2021 |
| • EIC Education Scholarship (top 5%). | 2018 |
| • Samsung Scholarship (top 3%). | 2017 |
| • Meritorious Winner in Mathematical Contest in Modeling. | 2017 |