

# Jiawei Li

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## Education

- University of Texas, Austin, CS Department** 2022/01 –  
Ph.D. in progress  
Advisor: Prof. Scott Aaronson
- Peking University, School of EECS, Turing Class** 2016/09 – 2020/07  
Bachelor's in science, Overall GPA: 3.73/4.0

## Research Interests

- AI Safety / Alignment: AI Debate & Interpretability.  
Classical and Quantum Computational Complexity: Class TFNP.

## Publications & Preprints

- [1]. **On the Approximation of Nash Equilibria in Sparse Win-Lose Multi-player Games**  
Zhengyang Liu, Jiawei Li, and Xiaotie Deng. **AAAI-21**.
- [2]. **The Query Complexity of Local Search and Brouwer in Rounds**  
Simina Brânzei, Jiawei Li. **COLT-22 & Mathematical Statistics and Learning**.
- [3]. **Consensus Division in an Arbitrary Ratio**  
Paul Goldberg, Jiawei Li. **ITCS-23**.
- [4]. **Pandora Box Problem with Nonobligatory Inspection: Hardness and Improved Approximation Algorithms**  
Hu Fu, Jiawei Li, and Daogao Liu. **STOC-23**.
- [5]. **Total NP Search Problems with Abundant Solutions**  
Jiawei Li. **ITCS-24**.
- [6]. **On Pigeonhole Principles and Ramsey in TFNP**  
Siddhartha Jain, Jiawei Li, Robert Robere, Zhiyang Xun. **FOCS-24**.
- [7]. **Quantum Communication Advantage in TFNP**  
Mika Göös, Tom Gur, Siddhartha Jain, Jiawei Li. **STOC-2025 & QIP-2025**.
- [8]. **Metamathematics of Resolution Lower Bounds: A TFNP Perspective**  
Jiawei Li, Yuhao Li, Hanlin Ren. **STOC-2026**.
- [9]. **Total Search Problems in ZPP**  
Noah Fleming, Stefan Grosser, Siddhartha Jain, Jiawei Li, Morgan Shirley, Hanlin Ren, Weiqiang Yuan. **ITCS-2026**.
- [10]. **Pseudo-Deterministic Quantum Algorithms**  
Hugo Aaronson, Tom Gur, Jiawei Li. **In submission**.
- [11]. **Avoiding Obfuscation with Prover-Estimator Debate**  
Jonah Brown-Cohen, Geoffrey Irving, Georgios Piliouras, Lijie Chen, Jiawei Li, Zhiyang Xun. **In submission**.
- [12]. **Sparsity and Out-of-Distribution Generalization**  
Scott Aaronson, Lin Lin Lee, Jiawei Li. **In submission**.

## Experience

- Visiting Researcher, *Alignment Research Center, Constellation* Summer 2025
- Develop empirical algorithms for “mechanistic abnormally detection” on small RNN. ([Blog](#))
  - Build complexity theory foundation for “matching sampling principle”.

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## Service

Co-organizer of the “Total Search Problems in TCS” workshop at STOC 2025

Conference: reviewer for STOC, FOCS, CCC, ICALP, ITCS, ICML

Journal: sub-reviewer for TCS, SICOMP

Teaching Assistant, *Quantum Information Science I*, UT Austin

Fall 2022, 2024

Teaching Assistant, *Approximation Algorithm*, UT Austin

Spring 2023

Teaching Assistant, *Discrete Math II*, Peking University, Turing Class

Spring 2019

## Awards and Honors

ICPC North America Championship, 13th Place (Advanced to World Finals)

2022/05

ICPC South Central USA Regional Contest, 2nd Place

2022/03

“Fangzheng” Scholarship in EECS, Peking University

2019/10

First price of “PDZF” Scholarship in EECS, Peking University

2018/10

National Olympiad in Informatics 2015: Gold Prize

2015/07