

# JIAXIN SONG

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## RESEARCH INTERESTS

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### Programming Languages

*Verification of Programs through theorem provers, logic, static program analysis, acceleration of SMT solvers*

### Theoretical Computer Science

*Computational Complexity, classical theoretical problems, like fair division, and online matching.*

## EDUCATION

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### Shanghai Jiao Tong University

Sep. 2019 – 2023

*Bachelor of Science in Computer Science; GPA: 3.78/4.0; Rank: 9/109*

*Minhang, Shanghai*

## PUBLICATIONS

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Note that the author's order of papers with ★ is alphabetical.

1. Xiaolin Bu, Zihao Li, Shengxin Liu, **Jiaxin Song** and Biaoshuai Tao. “Fair Division with Allocator’s Preference”, in the 19th Conference on Web and InterNet Economics. 2023 (WINE’2023). ★
2. Xiaolin Bu, **Jiaxin Song** and Biaoshuai Tao. “On Existence of Truthful Fair Cake Cutting Mechanisms.”, in Volume 319 of Artificial Intelligence Journal. June 2023. ★
3. Xiaolin Bu, Zihao Li, Shengxin Liu, **Jiaxin Song** and Biaoshuai Tao. “Fair Division with Prioritized Agents”, in the Association for the Advancement of Artificial Intelligence. 2023 (AAAI’2023). ★
4. Hongming Liu, Hongfei Fu, Zhiyong Yu, **Jiaxin Song** and Guoqiang Li. “Scalable Linear Invariant Generation with Farkas’ Lemma”, in Object-oriented Programming, Systems, Languages, and Applications. 2022 (OOPSLA’2022).

## WORKSHOP

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1. Xiaolin Bu, Zihao Li, Shengxin Liu, **Jiaxin Song** and Biaoshuai Tao. “On the Complexity of Maximizing Social Welfare within Fair Allocations of Indivisible Goods”, in the Workshop of the 23rd ACM Conference on Economics and Computation. 2023 (EC’23 Workshop). ★

## MANUSCRIPTS

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1. **Jiaxin Song** and Hongfei Fu. “Equational Bit-Vector Solving via Strong Gröbner Basis”.
2. Xiaolin Bu, Zihao Li, Shengxin Liu, **Jiaxin Song** and Biaoshuai Tao. “Logarithmic Comparison-Based Query Complexity for Fair Division of Indivisible Goods” (in the submission of STOC’24). ★
3. **Jiaxin Song**, Zhang Cheng, Qinxiang Cao. “Towards Denotational-semantics-based Compiler Correctness Verification”.

## INTERNSHIP EXPERIENCE

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### University of California, Santa Barbara

June 2023 – Sep. 2023

*Research Intern*

*Remote*

- Under the guidance of Prof. Yu Feng and Hongbo Wen.

### MoveBit

Feb 2023 – June. 2023

*Software Development Intern*

*Remote*

- Designed a prototype to automatically estimate gas unit costs of smart contracts written in Move.

### NIO

Nov 2022 – Feb. 2023

*Software Security Intern*

*Jiading, Shanghai*

- Helped to maintain the static software analysis tools and fix the reported false positives of Infer.

### Shanghai Naive Systems

May 2021 – Oct. 2021

*Software Development Intern*

*Minhang, Shanghai*

- Introduced the concept of ownership to C and designed a data-flow analysis framework to detect bugs violating ownership rules.

## AWARDS

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**Zhiyuan Outstanding Student Scholarship in SJTU** **2023**

*Awarded to 30 graduated students of Zhiyuan College who have achieved great results in courses and research.*

**Best Student Paper Award of IJTCS-FAW'2023** **2023**

**Huatai Security Scholarship** (top 10% students) **2022**

**Zhiyuan Honor Scholarship** (top 10% students) **Dec. 2019/2020/2021**

## TEACHING EXPERIENCE

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**Teaching Assistant** **Spring. 2022**

Algorithm Design and Analysis (Lecturer: Biaoshuai Tao, Spring 2022).

**Teaching Assistant** **Fall. 2022**

Convex Optimization and Linear Optimization (Lecturer: Kuan Yang, Fall 2022).

## LANGUAGES AND SKILLS

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**Technical Skills:** C, Python, C++, Rust(a little), Coq, Latex

**Tools and Platforms:** Linux, Git, Docker

**Languages:** Mandarin (Native), English (TOEFL: 99)