

# YOUZHANG (MARK) SUN

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## RESEARCH INTEREST

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### Computer Science

- Programming Languages, Functional Programming
- Type Theory, Dependent Types, Effects
- Computability, Complexity Theory

### Mathematics

- Mathematical Logic, Category Theory
- Set Theory, Topology

## EDUCATION

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### Honours Bachelor of Science

*University of Toronto, Toronto, Ontario*

Specialist in Computer Science, Major in Mathematics

Sept 2019 - June 2024

Cumulative GPA: 3.97

- Computer Science
  - Readings in Computer Science, Dependent Types
  - Principles of Programming Languages
- Mathematics
  - Introduction to Mathematical Logic
  - Readings in Mathematics, Category Theory

## AWARD

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### Computer Science Theory Award

*University of Toronto*

Sept - Dec 2023

- Highest average in Computer Science Theory courses, CSCB36 and CSCC63
- CSCB36, Introduction to the Theory of Computation, 95%
- CSCC63, Computability and Computational Complexity, 100%

### Dean's List

*University of Toronto*

2020 - 2023

## ACADEMIC PROJECTS

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### Expository Paper on Staged Compilation and Two-level Type Theory

Yulong Liu and Youzhang Sun

*Project Link:* <https://github.com/Lemonsity/Staged-Expository>

May - Aug 2023

- Expository paper on metaprogramming
- Talk at Undergraduate Research Symposium
- Two-level type theory, type inference, type isomorphism

## TEACHING EXPERIENCES

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**CSCC24: Principles of Programming Language - TA**

Jan - Apr 2024

**CSCB36: Introduction to the Theory of Computation - TA**

Sept - Dec 2023

**CSCC24: Principles of Programming Language - TA**

May - Aug 2023

**CSCA67: Discrete Mathematics - TA**

Jan - Apr 2023

**CSCB36: Introduction to the Theory of Computation - TA**

May - Aug 2021

*All TAship held at the University of Toronto*

## Professional Experiences

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### Lodestone — Backend & Frontend Developer

*Project Link:* <https://github.com/Lodestone-Team>

*Rust, sqlx, Sqlite, zip-rs, React, Rocket.rs, MongoDB*

Dec 2021 - Jan 2023

- Co-designed and developed Minecraft server hosting client with **Rust**
- Implemented **RESTful API** & CLI
- Implemented data storage with **Sqlite** and **sqlx**.
- Realized file upload, download, extract, compress, and size limit for the Rust client with **zip-rs**
- Implemented hardware monitoring and visualization on a web dashboard with **React** and **react-chartjs-2**

**dApp Technology Inc. — Backend & Frontend Developer**

Jan - Aug 2022

*JavaScript, Node.js, React Native, ethers.js, blockchain, WalletConnect, PostgreSQL*

- Implemented **blockchain** interaction in **React Native** with **ethers.js** to enable for ERC20 token transactions on Ethereum-based blockchain with mobile app
- Integrated **WalletConnect** for app to communicate with decentralized applications (dapp)
- Developed RESTful API endpoints with **PostgreSQL** using Nest.js and Prisma

**TD Securities — Developer**

Jan - Apr 2021

*Java, MS SQL, Python, Pandas, JavaScript*

- Completed on-going **Java** data processing application through effective communication with client
- Implemented **MS SQL** interaction and data processing with associated libraries such as java.sql, **Python Pandas**