



# AOYANG YU

Email: aoyang.yu.pro@outlook.com

Website: permui.github.io

## RESEARCH INTEREST

I am interested in **Programming Language Theory** and seek to do some research in this field.

## EDUCATION

### Bachelor of Engineering | *Computer Science and Technology*

Sep. 2019 – June 2023 (expected)

Zhejiang University, Chu Kochen Honors College

Hangzhou, Zhejiang, China

- GPA: 93/100 Rank: 3/43

- Selected courses: Mathematical Analysis I II (95 97), Linear Algebra I II (99 100), Real Variable Analysis (96), Complex Analysis (84), Discrete Mathematics (100), Advanced Data Structure and Algorithm Analysis (97)

## PROJECTS

### MeSQL ☑ : A Basic DBMS | *C++*, *Flex* & *Bison*

Spring 2020

Course Project of *Database System*

- I independently developed a basic DBMS in C++ from scratch to challenge my system programming skills. It includes a buffer manager, a record manager, B+ tree indexing mechanisms and an command interpreter.
- The interpreter that accepts SQL queries is implemented with *Flex* and *Bison*, open source lexer and parser generators. This is not a requirement, but I enjoy self-learning them and applying them very much.

### SystemF1 ☑ : The First-Order Typed $\lambda$ -Calculus | *Rust*

Autumn 2021

- This is a CLI program that performs type derivations under the type system F1, the first-order typed  $\lambda$ -calculus.
- I learned this topic from Luca Cardelli's introductory text on type systems. Although the implementation is simple, I am beyond excited to see the type theory "working"!

### A RISC-V Pipelined Processor | *Verilog*

Autumn 2021

Course Project of *Computer System II*

- I built a RISC-V pipelined processor supporting most of the RV32I instructions. It was developed in Verilog with Vivado and can be run on Digilent<sup>®</sup> Nexys A7 boards.
- In the following semester, control/status registers, exception handling and interrupt facilities will be added so that it can boot a basic operating system.

## HONORS AND AWARDS

### The 2019 ICPC Asia Nanjing Regional Contest *Gold Medal*

Oct. 2019

ICPC stands for International Collegiate Programming Contest

ICPC Foundation

### The 2019 CCPC Xiamen Site *Gold Medal*

Oct. 2019

CCPC stands for China Collegiate Programming Contest

Committee for CCPC

### Leading Student Scholarship

Fall 2020

Merit based scholarship for leading students

Chu Kochen Honors College, Zhejiang University

### Zhejiang Provincial Government Scholarship

Fall 2020

Award top 15% students in academics

Zhejiang Provincial Government

## COMMUNITY INVOLVEMENT

### Chu Kochen Honors College Learning Assistant

Fall 2019

Helping peers with problems related to C programming

Zhejiang University

### Chu Kochen Honors College Learning Assistant

Fall 2020

Giving lectures on mathematical analysis and linear algebra to first-year students

Zhejiang University

## SKILLS

**Language:** Chinese (Native), English

**Programming:** C++, Python, Haskell, Rust

**Proof Assistant:** Coq (learning by working on *Software Foundations*)