YANG, RUQING

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RESEARCH INTEREST

I'm interested in the **design** and **implementation** of programming languages and typing systems.

EDUCATION

Hong Kong University of Science & Technology **Aug. 2023 - June 2025 (expected)**
M. Phil. *Computer Science and Engineering* *Hong Kong S.A.R., China*
Advisor: Lionel Parreaux

Zhejiang University **Sep. 2019 - June 2023**
B. Eng. *Computer Science and Technology* *Hangzhou, China*

PROJECTS

Calocom **Spring 2022**

- This is a course project where I and my teammates designed and implemented a programming language with functional features like algebraic data type, closure, and pattern matching.
- I was involved in designing the type system, the typed AST, and the middle IR.
- I wrote the type checker, transformer from typed AST to middle IR, the code generator targeting LLVM IR, the run-time library, and the standard library.

SyOC **Spring 2022 - Summer 2022**

- An optimizing compiler for SysY (a subset of C) language.
- Used technique: Iterated domination frontier analysis for SSA-form IR construction, constant propagation, etc.

EXPERIENCE

Teaching Assistant **Sept. 2022 - Jan. 2023**

- In the course *Principles of Programming Languages*.
- I prepared a lab that requires students to implement Hindley–Milner type inference in a simple lambda calculus with let expression.
- I designed and wrote the auto judgement system of labs.

SKILLS

Programming Languages: C/C++, Java, OCaml, Python, Rust, Scala
Proof Assistant: Coq