

Roife

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Education

Nanjing University (NJU)

2023.09 - 2026.06 (expected)

Master of Computer Science and Technology

Nanjing, China

- Member of [Pascal Research Group](#). Major in PL and program analysis.
- Teaching Assistant: *Principles and Techniques of Compilers* (Spring 2024)

Beihang University (BUAA)

2019.09 - 2023.06


Bachelor of Computer Science and Technology

Beijing, China

- GPA 3.84/4.00. National Scholarship 2022 (Top 0.2% national-wide). Outstanding Graduate of BUAA.
 - Won the First Price of [NSCSCC Compilation System Design Competition](#) 2021, ranking 2nd.
 - Teaching Assistant: *Programming in Practice* (Fall 2020), *Object-oriented Design and Construction* (Fall 2021, Spring 2022).
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Research

A lightweight edge-side compiler for neural network operators

 [roife/llvm-lite](#)


Undergraduate thesis project

BUAA, 2022.06 - 2023.05

- An independently implemented lightweight edge-side compiler and trimming work on the LLVM codegen module.
 - Using shape information at the edge-side device to perform secondary optimization on offline compiled LLVM IR format neural network operators, to reduce the temporal and spatial overhead during operator runtime.
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Projects


Ayame

 [No-SF-Work/ayame](#)

Team, implemented register allocation and codegen related optimizations

- A SSA-based compiler for a subset of C to LLVM IR/ARMv7, with optimizations such as GVN, register allocation etc.
- Project for [NSCSCC Compilation System Design Competition](#), outperforming `clang -O3` on 1/3 testcase.

Hanggai

 [Caniformia](#)

Team, participated in iOS app and web backend development

- An app for the course *Introduction to Aeronautics and Astronautics* in BUAA, supporting the web and [iOS](#).

Open-source contributions

[rust-lang/rust-analyzer](#), [rust-lang/rust-clippy](#), [yuin/goldmark](#), [doomemacs/doomemacs](#) and [more on GitHub](#)

Skills

- **Programming Languages:** Not limited to specific language, especially experienced in C, C++, Java, Rust, Swift, Python, Javascript, Verilog (SV).
 - **PL Theory:** Familiar with type systems, formal semantics and formal verification.
 - **Program Analysis:** Proficient in static analysis, especially familiar program analysis on Java.
 - **Compiler:** Proficient in compilation optimizations, parsers and interpreters; knowledgeable about LLVM.
 - **IDE Tooling:** Familiar with LSP-based IDE development, especially familiar with rust-analyzer.
 - **Web / Mobile:** Familiar with Vue, SwiftUI, Rails, Docker, PostgreSQL, Redis.
 - **Developing Environment:** Proficient in Emacs; usually works in macOS and Linux.
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Misc

- **Languages:** Chinese (native), English (fluent)