

Roife

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Education

Nanjing University (NJU)

Master of Computer Science and Technology

2023/09 - 2026/06 (expected)

Nanjing, Jinagsu, China

- Member of Pascal Research Group. Major in PL, program analysis and EDA.

Beihang University (BUAA)

Bachelor of Computer Science and Technology

2019/09 - 2023/06

Beijing, China

- GPA 3.84/4.00, National Scholarship 2022 (Top 0.2% national-wide), Outstanding Graduate of BUAA.
 - the First Price of NSCSCC Compilation System Design Competition (Huawei Bisheng Cup) 2021, ranking 2nd.
 - Teaching assistant for *Programming in Practice* (Fall 2020), *Object oriented Design and Construction* (Fall 2021, Spring 2022).
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Research Experience

A lightweight edge-side compiler for neural network operators 📄

2022/06 - 2023/06

Working independently

BUAA

- Project for my undergraduate thesis, including a independently implemented lightweight edge-side compiler for LLVM IR 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 📄

Co-developer, implemented register allocation and codegen related optimizations

- A SSA-based compiler for a subset of C to LLVM IR/ARMv7 ASM, with optimizations such as GVN, register allocation etc.
- Project for Huawei Bisheng Cup 2021, with performance exceeding `clang -O3` on nearly 1/3 of testcases.

Hanggai 📄

Co-developer, 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.
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Skills

- **Programming Languages:** C, C++, Java, Rust, Swift, Python, JavaScript, Ruby, Verilog(SV), Haskell.
 - **Compilers:** Proficient in prevalent compilation optimizations; knowledgeable about LLVM and rust-analyzer; experienced in writing parsers, interpreters, and codegen.
 - **PLT:** Familiar with functional programming languages, type systems and formal verification.
 - **Web/Mobile development:** Full-stack; Familiar with Vue, Rails, Django, SwiftUI, Docker, PostgreSQL, Redis.
 - **Dev Tools:** Proficient in Emacs, JetBrains IDEs and Xcode; usually works in macOS and Linux.
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Misc

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