

FAN ZHANG

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Education

B.S. in Software Engineering at **Northeastern University**, NE, China Sep, 2021 – Jun, 2025
Selected courses: Operating Systems, Computer Networks, Computer Architecture

Work Experience

Tencent, WXG WeChat Technology Group Dec, 2024 – Present
Technology Architecture Department, Pre-training/Post-training Engineer of Base Model

- Responsible for the framework development of pre-training/post-training of base model in WeChat, including model training acceleration and memory optimization.
- Participated in the reimplementaion of DeepSeek Infra, using ThunderKittens to refactor DeepGEMM, and responsible for the development of 80% of Kernels in the framework.

Related Projects

Distributed Pre-training Engine for Large Language Models 1145/14 - 1919/8/10

- Supports dependent types, dependent pattern matching with confluence check for overlapping clauses, higher inductive types, GADTs (paper published), hierarchial universes, cubical type theory features, and implicit arguments.
- Can export elaboration result to HTML or \LaTeX . Can JIT-compile closures into JVM using HOAS, Can refine patterns using coverage information. Supports both LSP in VSCode and IntelliJ PSI. Provide jlink binary releases.

Skills

- Programming Languages:** multilingual (not limited to any specific language), especially experienced in C/C++ Python Go, comfortable with Java Rust (in random order).
- LLM: familiar with LLM development, especially with the training and inference of large models.
- Kotlin/Java: **10 years of experience**, familiar with JNI, JPMS, Gradle, Kotlin coroutines, and Swing.
- Type Theory: understand Martin-Löf type theory, coinduction, HoTT, and Cubical, familiar with Idris, Agda (**5 years** of experience, contributor), Arend and some Lean/F★/Coq.
- IDE Tooling: **6 years of experience**, familiar with the IntelliJ Platform infrastructure (created [Julia](#), [DTLC](#), [Pest](#), [Kala Inspections](#), etc.), also have experience with VSCode plugin development.
- Tools: editor-agnostic, have experience with team tools like YouTrack, Jira, GitHub, BitBucket, Slack, JetBrains Space and more.

Misc

- Profile links (please use a PDF reader with hyperlink support): [Crates.io](#), [IntelliJ Marketplace](#)
- Languages: English - fluent (TOEFL 100), Chinese - native speaker
- Open-source contributions: <https://ice1000.org/opensource-contributions>, contributed to [agda](#), [Arend](#), [libgdx](#), [jacoco](#), [KaTeX](#), [shields.io](#), [grpc-rs](#), [intellij-solidity](#), [intellij-haskell](#), [intellij-rust](#), [TeXiFy-IDEA](#), [rust-analyzer](#) and other projects
- [StackOverflow](#): 6000+ reputation, also active on [Proof Assistants](#) (5000+ reputation) and [other StackExchange sites](#)
- Latest revision of this resume: one-page version <https://tinyurl.com/y8xdlfug>, complete version: <https://tinyurl.com/y2v59t36>
- 1 dan** on [CodeWars](#), ranked #111 on the whole site (Top 0.020%), primarily in Haskell, Agda, and Idris