

Matthew Gharrity

gharrma@gmail.com | 608.692.7222 | mattgharrity.com

EDUCATION

Cornell University

Bachelor of Arts, December 2017
Computer Science, *summa cum laude*
GPA 4.12 (4.3 scale)

COURSEWORK

Computer Science

Compilers
Advanced Systems
Advanced Algorithms
Operating Systems
Distributed Computing
Machine Learning
Databases
Parallel Computing
Honors OO Design and Data Structs
Functional Programming
Programming Languages (audited)
Systems Principles (audited)

Math

Linear Algebra
Multivariable Calculus
Combinatorics
Probability

MISC

Recent areas of work

Developer tooling, compilers,
build systems, IDEs, profilers,
performance optimization

Recent toolset

Kotlin, Java, JVM, Bazel
Git, IntelliJ Platform

EXPERIENCE

Google | Staff Software Engineer 2023 – Present

Senior Software Engineer 2021 – 2023
Software Engineer 2018 – 2021

- Tech Lead, Android Studio IDE Platform team, San Francisco, CA
- Leading the integration of IntelliJ Platform, including long-term stewardship of a fork with millions of lines of code; preparing the broader Android Studio team for major upstream changes; and debugging across various core subsystems (e.g., plugin loading, indexing, Java/Kotlin IDE analysis)
- Designed and released *IDE Perf*, an IntelliJ performance analysis tool used at both Google and JetBrains: github.com/google/ide-perf
- Contributed code navigation tools for AI agents in Android Studio
- Gave a talk on Android Lint at Android Dev Summit: youtu.be/ffH-LD5uP4s
- Optimized Android Lint performance: link.medium.com/ppyrkiQEPV

Competitive Programming

- ACM-ICPC World Finalist, 2017
- Bloomberg Global CodeCon Finalist, 2017, 2018
- 1st place, Microsoft College Code Competition at Cornell, 2017
- Maintained a code library at github.com/gharrma/contest-library

Research Project | JLang 2016 – 2018

- Paid work with Prof. Andrew Myers while studying at Cornell
- Added an LLVM backend to the Polyglot compiler, supporting ahead-of-time compilation for Java 7. Implemented dynamic dispatch, exceptions, arrays, enums, local classes, and implemented most of the Java Native Interface (JNI)
- Released at github.com/polyglot-compiler/JLang

Google | SWE Intern (x2) Summer 2016, 2017

- Android Studio: shipped a whole-program thread annotation analyzer
- Android Runtime: developed a register allocator that reduced code size by 3%, and identified areas of improvement for the existing allocator

Course Consultant 2015 – 2016

- Honors Object-Oriented Design and Data Structures (1 semester)
- Operating Systems with Practicum (1 semester)

Notable Course Projects

- Compilers practicum: translated strongly-typed source to optimized x86
- OS practicum: preemptive threads, UDP, TCP, file system (written in C)
- Distributed systems: Paxos protocol and Bayou protocol (written in C++)