

Matthew Gharrity

gharrma@gmail.com | 608.692.7222 | www.mattgharrity.com

EDUCATION

Cornell University

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

COURSEWORK

Computer Science

Advanced Systems*
Advanced Algorithms*
Distributed Computing*
Applications of Parallel Computing*
Structure of Information Networks*
Compilers with Practicum
Operating Systems with Practicum
Machine Learning
Databases
System Organization & Programming
Honors OO Design and Data Structs
Functional Programming
Discrete Structures

Mathematics

Combinatorics
Probability
Applicable Algebra
Linear Algebra
Multivariable Calculus

Informally Audited

Advanced Programming Languages*
Systems Principles*

* taught at the graduate level

MISC

Fluent

C++ ◦ C ◦ Java ◦ Kotlin ◦ Git

Familiar

Python ◦ OCaml ◦ Go ◦ SQL
Unix/Bash ◦ LLVM ◦ JVM

Goldwater Scholarship nominee at
Cornell, 2017

EXPERIENCE

Google Software Engineer (L4) 2018 - Present

- Android Studio IDE Platform team
- Areas of focus: understanding core IDE architecture and promoting best practices; profiling and performance; Kotlin integration; Android Lint
- Released an IDE performance diagnostic tool at github.com/google/ide-perf
- Gave a talk on Lint (a static analysis framework) at the 2018 Android Dev Summit, live-streamed and published at youtu.be/ffH-LD5uP4s
- Helped improve Lint performance by 2x in Android Studio 3.3 and published a blog post about the improvements at link.medium.com/ppyrkiQEPV

Google Software Engineering Intern Summer 2017

- Android Studio IDE Core team
- Developed interprocedural static analyses for call graph construction
- Shipped a whole-program thread annotation analysis in Android Studio 3.0

Google Software Engineering Intern Summer 2016

- Android Runtime (ART) team
- Developed a register allocator that consistently reduced code size by 3%, and identified areas of improvement for the existing allocator

Competitive Programming 2015 - 2018

- 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

JLang Research Project 2016 - 2018

- Paid work with Prof. Andrew Myers at Cornell
- Added an LLVM backend to the Polyglot compiler, thereby supporting ahead-of-time compilation for Java 7
- Co-authored most translations: virtual method dispatch, exceptions, arrays, enums, local classes, implicit type conversions, etc.
- Implemented most of the Java Native Interface (JNI), including some reflection
- Released at github.com/polyglot-compiler/JLang

Course Consultant 2015 - 2016

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

iD Tech Instructor Summer 2015

- Macalester College, Minneapolis, MN
- Led a Java programming class with eight high school students each week