William Ma

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INTRODUCTION

I am an open-source contributor to a package manager for macOS, an experienced iOS developer working on an on-campus dining app, and an academic student interested in compilers, computability theory, and algorithms.

EDUCATION

CORNELL UNIVERSITY

BS, Computer Science
Expected May 2022 | Ithaca, NY
College of Engineering
Dean's List (3 semesters)
GPA: 4.2

ARLINGTON HIGH SCHOOL

2014 - 2018 | Lagrangeville, NY

COURSEWORK

COMPUTER SCIENCE

Analysis of Algorithms, Compilers, Functional Programming, Object-Oriented Design and Data Structures, Theory of Computing, Discrete Structures

BUSINESS

Financial and Managerial Accounting, Macroeconomics

MATHEMATICS

Linear Algebra, Multivariable Calculus

TECHNICAL SKILLS

PROFICIENT

Swift, Java, OCaml, Xcode, UIKit, Animations with UIKit, Core Data, Core Location, MapKit, LaTeX, Git, Vim, Ubuntu

EXPERIENCED

Objective C, Python, Verilog, HTML, CSS, Android Studio, Web Development, Nginx, VMware ESXi

ACTIVITES

Cornell University Glee Club

HOMEBREW

OPEN-SOURCE CONTRIBUTOR

The Missing Package Manager for macOS (or Linux)
Summer 2020 — Present

- **Unified 8 brew and brew cask commands; Added cask support to 3 brew commands**
- **Added license information to 50% (ct. ≈ 2500) of homebrew-core packages**
- Part of the inaugural MLH Fellowship
- *Github:* https://github.com/homebrew
- *Technologies:* Ruby, Rspec, DSLs

EATERY

IOS DEVELOPER & PROJECT MANAGER

Find food at cornell
Fall 2018 — Present

- **Grew user base by 20% during 2019**
- **7,200 Monthly Active Users, 2,500 Daily Active Users**
- Created interactive bar-chart view for Popular Times feature
- Architected and implemented a large feature: Collegetown Eateries
- Implemented design changes; refactored legacy UI code
- Collaborated on a team with iOS, Android, backend developers, as well as designers and marketers
- *Github:* https://github.com/cuappdev/eatery
- *Technologies:* iOS, Swift 4.2, UIKit, Apollo

XI COMPILER

Compiler for imperative language into x86 assembly
Spring 2020 for CS 4120

- **Implemented dataflow analysis optimizations: Register allocation, copy propagation, dead code elimination, loop unrolling**
- **Developed test suite with unit tests, performance tests, and integration tests.** Used code coverage tools throughout development.
- Built lexing with JFlex, parsing with CUP, type-checking, syntax-directed IR generation, dataflow-based optimization, ASM generation with tiling
- Used visitor pattern for AST to MIR to LIR translation
- *Technologies:* Java, JUnit testing, Gradle, `gdb`, JFlex, CUP

CELLO MUTE

INDEPENDENT IOS APP

The tools musicians need, all in one
Summer 2016

- **39K Downloads**
- Designed both the UI and the icons used throughout the app
- Illustrated marketing material used on the App Store.
- *Github:* https://github.com/whoiswillma/Cello-Mute
- *Technologies:* AudioKit, UIKit animations