

MARVIN YANG

Ithaca, NY 14850
(607)-592-3467 | myy22@cornell.edu

EDUCATION

Cornell University | College of Engineering | Ithaca, NY

Class of 2023

- Bachelor of Science in Computer Science, Minor in Mathematics
- Cumulative GPA: 4.09
- Coursework (* current): Object Oriented Programming, Linear Algebra, Functional Programming, Statistics, Algorithms, Computer System Organization, Machine Learning, Operating Systems (OS), OS Practicum, Artificial Intelligence, Computer Vision, Web Applications*, Databases*

RELEVANT EXPERIENCE

Meta | Software Development Intern | Backend & Infrastructure

June 2022 – August 2022

- Added new language (Hack – Meta dialect of PHP) support to an issue detection framework for detectors that find and resolve problem in code and other targets via task creation or code changes
 - Main logic of framework resides in Python; used a script controller for cross language communication via JSON serialization
 - Metaprogramming dynamically created new Python classes under the framework that corresponded with Hack detectors
 - Improved performance of Hack detectors by 10 times the initial implementation by minimizing process-creation overhead
 - Created performance analysis suite for Hack detectors
 - Utilized async Hack and async Python and familiarized with company coding practices
- With the new Hack language support, migrated an existing tool (written in Hack) that created tasks for unreliable continuous integration (CI) tests to use the framework for task management
 - Used shadow runs for deep data comparison pre and post migration to ensure coverage parity
 - Affected ~120k CI tests; improved the reliability of code reviews by ensuring flaky and unreliable CI tests do not waste the time of developers

Onto Innovation | Software Research Intern

June 2021 – August 2021

- Designed, developed, and tested a C library for thread-safe job scheduling
- Self-taught Cmake build system to enable cross-platform (Windows/Linux) development
- Used Pthread and Windows threading libraries to make custom data structures thread-safe
- Unit tested with Cmocka to verify correctness of data structures. Tested for memory leaks and race conditions using Address Sanitizer and Thread Sanitizer respectively
- Tested efficiency of data structures with multi-threaded simulator program
 - Implemented functions with mutex locks and condition variables

Cornell Data Science | Insights Team

Spring 2020 – Present

- Created Emoticon Text Generator and Meme Classifier tool
 - Web-scraped data from Twitter and created FFNN and RNN models using Pytorch
 - Created interactive web-app and visualizations using Flask, D3.js, and Bootstrap
- Developed skills with Python and associated data science libraries (Numpy, Pandas)

SKILLS & INTERESTS

- **Programming Languages:** Async Python, Async Hack, C, Java, C++, OCaml, R
- **Software Proficiencies:** Metaprogramming, Cmake, Unit Tests, Multi-Threading, Web Apps, Linux
- **Language:** English, Conversational Mandarin
- **Interests:** Fantasy Novels, Gaming, Cooking