Preston Locke

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EDUCATION

Macalester College, St. Paul, MN   *Bachelor of Arts Expected May 2022*

Major: Computer Science (In-Major GPA: 3.8)   *GPA: 3.7*

Coursework: Computer Systems Organization, Theory of Computation, Algorithm Design and Analysis, Software Design and Development, Computer Security and Privacy, Intro to Database Management Systems

SKILLS

Programming Languages:

Bash	C/C++	CSS	Dart
HTML5	Intel x86 Assembly	Java	JavaScript
PHP	Python	SQL	TypeScript

Frameworks and Libraries:

Android	Flutter	Jest Unit Testing	JQuery
	Node.js	Qt	

Software and Tools:

Firebase	Git	GNU Debugger	Linux
Makefile	TravisCI	Webpack	Windows

EXPERIENCE

Software Development Intern, Brightfox, Minneapolis, MN   *Nov 2020 - Present*
Dart, Databases, HTTP APIs, Flutter

- Create a cross-platform app to process and display data from a proprietary API
- Map out a development timeline with milestones and tangible deliverables
- Collaborate with a small team to determine design features to be built

T.A. - Computer Security & Privacy, Macalester College, St. Paul, MN   *Sep 2020 - Nov 2020*
C, Computer Security, HTML, JavaScript, PHP, Python, SQL

- Maintained familiarity with exploits in common web technologies
- Assisted students with problem-solving, debugging, and testing code
- Graded and provided constructive feedback for coding assignments

T.A. - Computer Systems Organization, Macalester College, St. Paul, MN   *Sep 2019 - May 2020*
Bash, C, Intel x86 Assembly, Python

- Developed scripts for use in assignments and activities
- Assisted students with problem-solving, debugging, and testing code
- Graded and provided constructive feedback for coding assignments

COLLABORATIVE PROJECTS

Password Manager *Feb 2020 - May 2020*
Algorithms, Cryptography, C++, Qt

- Created a password manager with an auditory feedback mechanism to convey password strength
- Optimized algorithm for substring-level checking of passwords against popular password dictionaries
- Implemented integrity-checking during the decryption of the password database

A* Algorithm Visualization *Nov 2019 - Dec 2019*
Algorithms, Python

- Created a cell-based step-by-step visualization of the A* Pathfinding Algorithm
- Collaborated with group members to implement user-defined obstacles and run/clear buttons

PotLuck *Sep 2019 - Dec 2019*
Dart, Firebase, Flutter, JSON, Node.js, NoSQL, REST APIs

- Created a cross-platform app that allows users to search for recipes using the ingredients their friends have
- Coordinated the Agile development tasks of a 4-member team over the course of a semester
- Designed a scalable application architecture that left room for design changes and future additions

PERSONAL PROJECTS

Chess Game
Algorithms, Babel, CSS, HTML, JavaScript, Jest Unit Testing, JQuery, Webpack

- Created a web-based chess game with move validation and game-state detection
- Practiced packaging/translating code for production using Webpack and Babel
- Learned the basics of unit testing while creating basic tests for core game logic

QNotPad
C++, Qt

- Created a basic text editor modeled after Notepad on Windows (Q-*Not*-Pad because it's *not* Notepad)
- Implemented file I/O and learned about conversion between different text encodings

CPUID
C++, Intel x86 Assembly, Makefile

- Created a terminal application that reads CPU details
- Learned to read large documentation manuals to understand complex APIs
- Practiced interfacing between low-level and high-level languages