

Cameron Hudson

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Summary

Software Engineering master's student seeking Summer 2019 internship. Passionate about software-driven problem solving. Broad interest and experience spanning full-stack web applications down to microcontrollers.

Education

MS, Software Engineering, 3.45 GPA

Carnegie Mellon University, Silicon Valley

Mountain View, CA

Aug 2018 - Dec 2019

- Foundations of Software Engineering: Object-oriented (OO) analysis and design; design patterns.
- Foundations of Computer Systems: Low-level software; optimizing for specific architectures.

Algorithms and Data Structures

Coursera

Stanford University

Jan 2018 - Mar 2018

- Divide and Conquer, Sorting and Searching, and Randomized Algorithms.
- Graph Search, Shortest Paths, and Data Structures.

BS, Chemical & Biomolecular Engineering, 3.39 GPA

Baltimore, MD

Johns Hopkins University

Sep 2008 - May 2012

- Linear Algebra: Matrix algebra. Linear regression, eigenvectors and eigenvalues, orthogonality.
- Differential Equations: Laplace transforms, exact solutions to first- and second-order equations.
- Calculus 3: Multivariate calculus. Gradients, integrals, optimization subject to constraints.

Academic Projects

- Emergency Social Network: Collaborated on mobile-friendly web app for use during disasters. Full MEAN stack (MongoDB, ExpressJS, Angular 7, NodeJS). RESTful HTTP API. WebSockets for realtime updates. JSON Web Tokens for authentication. Mocha for test-driven development (TDD).
- Architecture Lab: Optimized C programs by identifying cycles wasted with Gem5 simulator. Interpreted the offending assembly code and refactored the original C code for efficiency.
- Malloc Lab: Developed C package for memory allocation similar to malloc in utilization and speed.

Personal Projects

- Day Trading Web App for Eve Online: Authenticates with game server using OAuth. Performs asynchronous HTTP requests and calculations. Persists results to MySQL Database. Laravel back end, Angular 4 front end.
- Bayesian Trading Add-On for Elder Scrolls Online: Written in Lua. Collects incomplete game market data and uses a maximum a posteriori (MAP) profit estimate of identify the most lucrative items to trade.

Skills and Interests

Languages

C, JavaScript, Java

Frameworks

Angular 7, Laravel

Databases

MySQL, MongoDB

Other Interests

SciFi, Hiking, Board Games

Professional Experience

Process Engineer 2

Princeton, NJ

Axens (Petroleum Desulfurization)

Jul 2016 - May 2017

- Automated calculations critical to the design using Visual Basic, thereby increasing safety, reducing error potential, and decreasing man-hour costs for all future projects.

Process Engineer 2

Hampton Township, NJ

Amec Foster Wheeler (Engineering Contractor)

Jan 2013 - Mar 2016

- Leveraged Visual Basic to assemble and format the largest Heat and Material Balance in the office's history.

Certifications

- Nov 2017: National Council of Examiners for Engineering and Surveying, Engineer-In-Training
- Oct 2017: American Society for Quality, Six Sigma Green Belt