Cameron Hudson

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Summary

Software Engineering master's student seeking Summer 2019 internship. Coursework and personal projects involving full-stack web applications and analytics. Passionate about software-driven problem solving.

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
Stanford University

Coursera
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
Johns Hopkins University

Baltimore, MD
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: Identifies top day trading commodities. Angular 4 front end, Laravel back end, MySQL Database. Authenticates by OAuth. Performs asynchronous HTTP requests and calculations.
- Bayesian Trading Add-On for Elder Scrolls Online: Determines optimal market sell prices of items. Utilizes incomplete market data to compute the maximum a posteriori (MAP) estimate of profit. Written in Lua.

Skills and Interests

Languages	Frameworks	Databases	Other Interests
C, JavaScript, Java	Angular 7, Laravel	MySQL, MongoDB	SciFi, Hiking, Board Games

Professional Experience

Process Engineer 2
Axens (Petroleum Desulfurization)

Princeton, NJ
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
Amec Foster Wheeler (Engineering Contractor)

Hampton Township, NJ
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