Cameron Hudson

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Summary

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

Education

MS, Software Engineering — Mountain View, CA
Carnegie Mellon University, Silicon Valley — Aug 2018 - Dec 2019

- Foundations of Software Engineering: Best practices of team collaboration and development.
- Foundations of Computer Systems: Low-level software; optimizing for specific architectures.

BS, Chemical and Biomolecular Engineering — 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

- Social Network for Emergencies: Built mobile-friendly web app for use during disasters. Consisted of MongoDB, ExpressJS, Angular 7, and NodeJS (MEAN stack). Included RESTful API and JSON Web Tokens, as well as WebSockets for realtime updates. Employed design patterns such as factory method, facade, and observer. Applied Mocha for test-driven development (TDD).
- Architecture Lab: Optimized C programs by using the Gem5 simulator to identify cycles wasted by a pipelined processor, interpret the associated assembly code, and refactor the original C code for speed and efficiency.
- Malloc Lab: Developed package (in C) capable of performing memory allocation and deallocation similar to malloc. Used C structs and unions to create compact data structures resilient to memory fragmentation and conducive to rapid allocation and freeing.

Skills and Interests

Programming Languages
C, JavaScript, Java

Frameworks
Angular 7, Laravel

Tools
Bootstrap, Git, CircleCI

Markup Languages
HTML, CSS, LaTeX

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.
- Developed script to automate the assembly of the final design documents for delivery to the client, saving precious man-hours and reducing stress at project end.

Process Engineer 1 — 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, in order to grant more time for high-value work.

Certifications

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