HENRY CRUTE

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Experience

Research Assistant at CITRIS 6/14 - Present
Managing and developing technical aspects of the SEAD Plug project (SEAD Systems). This includes working with a mentor, collaborating with students/professors, and working on a diverse internet of things system. Fixed and developed programs/protocols for firmware, front-end, back-end, and data analysis/signal processing.

Instructor at iD Tech Camps 6/12 - 8/13
Worked with a team of instructors and directors to run a camp at UCLA and UC Irvine. This includes working together by following a schedule, and completing tasks that rely on other instructors as well as teaching technical information. Taught an introduction to programming in Java using Eclipse, and LEGO Mindstorms Robotics.

Education

University of California Santa Cruz
B.S. Computer Engineering, expected June 2015
G.P.A 3.57/4.0 (in major)

Skills

Very experienced with programming with Unix systems, and microcontroller systems.
Programming languages - C/C++, Java, Flex, Bison, Bash, Embedded C, Verilog, Assembly, Python, Matlab, HTML5/PHP/JavaScript/CSS, Perl, Scheme, Smalltalk, OCaml

Example Projects

- FFTW Extended API - Built on top of the C fftw library. Abstraction from the main API, so it is easier to integrate into other C programs. Eliminates the hassle of memory management, and specifically written for the computation of forward and backwards one-dimensional fast fourier transform.
- Compiler - Built using C++, Flex, and Bison. The compiler scans, parses, type checks, and outputs appropriately translated assembly code. This language is a subset of C, and includes structs, loops, variables, if statements, scope, functions, and more.
- Pseudo NAT protocol - Built using C. This application emulates the regular Network Address Translation (NAT) protocol, and even uses multithreading to complete requests as fast as possible.
- AST Library - Built using C++. For my compiler during the parsing stage, it was required to create an abstract syntax tree where any node could have any number of children linked to it.
- Linked list library - Built using C. All memory allocation is taken care of in the library, and the main user of the functions doesnt have to worry about anything. Is able to create nodes, link them in any order, and delete them.

Honors

Dean's Honors: Fall 2013 - Spring 2014

Activities

Tau Beta Pi Engineering Honor Society
Alpha Epsilon Pi Fraternity
Crown Student Activities Committee
Other interests include: Bicycling, Chess, Working Out, and Reading