BRIAN BECKER

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OBJECTIVE

To gain valuable work experience in an engineering/computer science position for the State of California, and to start building my career while using my knowledge and creativity to help serve the state.

EDUCATION

Bachelor of Science, Engineering
University of California, Davis

Completed June 2017

- Major: Computer Science and Engineering

- Related course work: Data structures, algorithm design and analysis, assembly, computer architecture, software engineering, databases, circuitry, operating systems, scripting, visualization, physics, partial differential equations, programming languages, AI, networks

- UC Davis Honors Program, Dean's list. GPA: 3.64

Summer Session
Stanford University, Stanford, CA

Attended 2013

SKILLS & ABILITIES

Programming

  3 years' experience in C and C++. Worked with large teams (10+ people) under Agile framework to implement, port, and document code for the game WarCraft 2 to Windows; personally implemented save/sound capabilities

- 2 years' experience in Java. Made a recursive descent parser in Java to test if basic C code is valid, and used Java to animate visualizations of the 2015 NBA playoff games

- Scripting, data processing, and web scraping in Python. Used Python extensively to gather and format large volumes of data for use in current projects. Also back-end database creation, updating, and querying in conjunction with PostrgreSQL (psycopg library)

- Some web programming in Javascript, HTML, CSS. Created web-based visualizations of mass data

- Shell scripting with bash in Linux (Ubuntu); capable with various Linux distros

Computer / Hardware Skills

- Physical, mechanical experience with hardware, circuit design (with Logisim, OrCAD) and implementation. Designed and implemented a small-scale least recently used cache, a single-cycle CPU, and a multi-cycle pipelined CPU with forwarding; much experience with finite state machines, combinational logic, muxes, logic tables and gates, etc

- Experience in using Adobe Photoshop and Premiere Pro (CS 6) to edit images and videos

Communication

- Delivered several successful presentations on research projects to large groups of people (20+)

- Possess excellent verbal, written communication skills with both other programmers and clients

WORK EXPERIENCE

Research Assistant
UC Davis, Visualization and Interface Design Innovation lab

06/2015 to Current

- Worked on designing scalable data visualization methods for tracing communications through MPI trace files between nodes for massively parallel HPC simulations; displayed as web-based visualizations using Javascript, HTML, and CSS

- Assisted in the writing of user interface for the San Francisco Exploratorium Living Liquids project

- Converted large data files to usable formats, and then uploaded them to SQL databases in a project for FEMA

- Wrote web scrapers to gather research data from Google Scholar entries

High School Internship
Sacramento Municipal Utility District

06/2014 to 08/2014

- Verified field locations of distribution assets and took field measurements; file organization and data entry