David McNeil

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Profile

I am a full-stack software engineer who advocates iterative development and continuous deployment. My programming language of choice is Rust for its efficiency and reliability, but I am also proficient in C++, TypeScript, Go, and Python.

Experience

2016 - Now
Three Years

n~ask Incorporated - MEMBER OF THE TECHNICAL STAFF - AURORA, COLORADO
- Active Top Secret/Sensitive Compartmented Information (TS/SCI) clearance.
- Designed, developed, and maintained an operational system which ingests terabytes of data a day, processed by DSP and geolocation algorithms, producing millions of results. The system runs using a containerized architecture consisting of hundreds of processes distributed on tens of machines located across the world. Several web clients are used for system management and a native client is used extensively by analysts.
- Developed a canvas based JavaScript mapping library for efficiently rendering millions of features.
- Designed and developed the frontend for mission management software.
- Created a test harness for running hundreds of system tests for an analytics framework.
TECHNOLOGY: C, C++, Docker, Go, InfluxDB, Java, Nomad, MongoDB, Python, Qt, React, Rust, TypeScript

2014 - 2015
Three Months

Indesign, LLC - FIRMWARE ENGINEER INTERN - INDIANAPOLIS, INDIANA
- Developed an embedded system which interfaced with numerous sensors and actuators.
TECHNOLOGY: C, Current Sensor, Hall Effect Sensor, MSP430, RFID Tags, Servo Motor

2014 - 2015
Nine Months

Naval Surface Warfare Center - SENIOR DESIGN PROJECT - CRANE, INDIANA
- Designed and developed a system to predict location based on RF spectrum data.
TECHNOLOGY: GPS, Python, Software Defined Radio, SQLite

2013 - 2014
Three Months

Garmin Ltd. - LOW LEVEL SOFTWARE ENGINEER INTERN - OLATHE, KANSAS
- Developed software for operating system profiling during route execution.
- Updated, maintained, and debugged extensive C/C++ code base.
TECHNOLOGY: C, C++, Hardware Debugger

2012 - 2013
Three Months

Cetani - SOFTWARE DEVELOPMENT INTERN - CARMEL, INDIANA
- Developed a server for pushing real-time hospital notifications to a front end user interfaces.
- Maintained and implemented new features in a Ruby on Rails application.
TECHNOLOGY: C#, HTML, CSS, JavaScript, Node.js, Rails, Ruby, SQLServer

2011 - 2012
Three months

Oasis Digital - SOFTWARE DEVELOPMENT INTERN - CHESTERFIELD, MISSOURI
-Designed a work management system with a Node.js backend and responsive frontend.
TECHNOLOGY: Backbone.js, CSS, HTML, JavaScript, Node.js, PostgreSQL

Projects

2018
Eighty Hours

Courier
- A pub/sub service with an HTTP, JSON API and web based statistics and management page.
-Clients for C++, Go, Python, and Rust.
TECHNOLOGY: Inferno.js, Rust, Typescript

2017
Forty Hours

The Rusty Web
- One of the first complete resources detailing how to integrate Rust, compiled to asm.js or WebAssembly, into a web application.
- Benchmarked various implementations of the k-means clustering algorithm in different browsers.
TECHNOLOGY: asm.js, JavaScript, Rust, WebAssembly

2015 - 2016
One Year

Master's Thesis
- Developed a custom RISC instruction set architecture with assembler, compiler, and simulator.
TECHNOLOGY: Bison, C++, Flex, LLVM

2015 - 2016
Thirty Weeks

Machine Learning
- Developed a sunset image classifier, optical character recognition software, resistor classifier, voice recognition software, and completed a certification program from Stanford University.
TECHNOLOGY: MATLAB/Octave, Neural Networks, Python, Support Vector Machines, TensorFlow, Torch

Education

2015 - 2016
One Year

Rose-Hulman Institute of Technology - TERRE HAUTE, INDIANA
Master of Science in Electrical Engineering with a focus on computer architecture.

2012 - 2015
Three Years

Rose-Hulman Institute of Technology - TERRE HAUTE, INDIANA
Bachelor of Science in Computer Engineering, Minor in Computer Science.

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