

## David McNeil

St. Louis, Missouri - [github.com/davidMcneil](https://github.com/davidMcneil)  
(314) 308-1596 - [mcneil.david2@gmail.com](mailto:mcneil.david2@gmail.com)

### Profile

I am a full-stack software engineer with a passion for distilling requirements into real business problems and effective solutions. I develop solutions by drawing from my experience and embracing new languages and technologies. My programming language of choice is Rust for its efficiency and reliability, but I have experience with a wide range of technologies: Go, C++, TypeScript, React, WebAssembly, and embedded systems.

### Experience

2019 - Now  
*Two Years*

**Chef Software** - SOFTWARE ENGINEER - REMOTE - [github.com/habitat-sh/habitat](https://github.com/habitat-sh/habitat)  
- Core maintainer of Habitat an open source tool for packaging, distributing, and running applications.  
- Migrated the codebase to async/await and Tokio a Rust asynchronous runtime.  
TECHNOLOGY: Rust, NATS messaging system, Gossip protocols, Asynchronous runtimes

2016 - 2019  
*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 a distributed system which ingests terabytes of data a day, processed by DSP and geolocation algorithms, producing millions of results. 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.  
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.  
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 front-end user interfaces.  
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 front-end.  
TECHNOLOGY: Backbone.js, CSS, HTML, JavaScript, Node.js, PostgreSQL

### Projects

2019

**NATS Rust Client** - [github.com/davidMcneil/rants](https://github.com/davidMcneil/rants)  
A full-featured, asynchronous client for the NATS messaging system.  
TECHNOLOGY: Rust, NATS messaging system

2017

**The Rusty Web** - [github.com/davidMcneil/the-rusty-web](https://github.com/davidMcneil/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 RISC architecture with assembler, compiler, and simulator capable of adding custom instructions for doing performance analysis of tradeoffs between hardware and software implementations.  
TECHNOLOGY: Bison, C++, Flex, LLVM

2015 - 2016  
*Thirty Weeks*

**Machine Learning**  
Developed an image classifier, optical character recognition software, resistor classifier, voice recognition software, and completed the Machine Learning 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.

September 9, 2020