

# Thomas Harmon

SOFTWARE DEVELOPER · COMPUTER ENGINEER

Available for Full Time Positions Starting September 2021

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## Skills

**Languages** Rust, Java, JavaScript, Kotlin, SQL

**Frameworks and Tools** Spring, React, Elasticsearch, AWS, GitLab CI, Docker

## Work Experience

### PowerAdvocate

Boston MA

SOFTWARE ENGINEER II

March 2021 - Present

- Federated identity management and authentication/authorization (SAML, Okta, SSO)
- Design and implementation a Renewables Asset and Cost Modeler, driving \$500k+ in annual contract value
- Reduced the build time of our flagship application, by 32 minutes (55%) by implementing a more efficient build process, saving roughly 250 FTE hours per month in development, validation, CI, and production build times

SOFTWARE ENGINEER I

May 2020 - March 2021

- Design and implementation of a messaging application
- [some more description of my actual swdev work and not just devops stuff i do sometimes]
- Configured GitLab continuous integration for NodeJs, Java, and Kotlin microservices, as well as React Apps and JS libraries
- Scripted an automated migration of a JSPWiki to a wiki with markdown formatting, increasing department interest in maintaining and creating documentation.

SOFTWARE DEVELOPMENT CO-OP

July 2019 - March 2020

- Contributed to redesign of a monolithic web application into a microservice-oriented architecture and monetizable API (siqs)
- Developed NodeJS microservice allowing analysts to search by using Elasticsearch, increasing searching accuracy
- Practiced Agile Development under a Continuous Flow framework, collaborating with other developers by pair programming
- Created unit and integration tests using Jest to ensure reliability and resiliency of software

### Northeastern University RIVeR Laboratory

Boston MA

UNDERGRADUATE RESEARCHER | PYTHON, C++, OPENCV, ROS

Jan. 2018 - July 2018

- Leveraged the OpenFace library for racial recognition and implemented a person following package for the Toyota HSR robot
- Placed 4<sup>th</sup> internationally in the RoboCup@Home competition in Montreal, Canada as part of a team of 6 researchers

### Draper Laboratory

Cambridge MA

ADVANCED CONCEPTS CO-OP | JAVA, ANSYS

Jan. 2017 - July 2017

- Created a Java application to convert system engineering models between OpenMETA and sysML formats
- Modeled operational effects of varying RF wavelengths and trace dimensions on a PBCB using ANSYS Electronic Desktop

## Technical Projects

### LiquidML | 🐙

Boston MA

DISTRIBUTED SYSTEMS, DATA ANALYTICS | RUST

February 2020 - April 2020

- Created a distributed and scalable Rust application for data analysis on data sets too large to fit into memory. Wrote extensive documentation, available at (docs.rs/liquid-ml). Designed an API which allows users to easily implement User-Defined Functions to perform their own data analysis without worrying about the complexities of distributed systems or performance
- Implemented decision tree and random forest machine learning algorithms with the application's API
- Includes a high performance, multi-threaded, file parser capable of inferring the schema of the data being parsed (docs.rs/sorer)
- Analyzed performance under various circumstances using perf and flamegraphs

### GShell | 🐙

Boston MA

SYSTEM SHELL | RUST

Sep. 2019 - Present

- Implemented a system shell for Unix Platforms using a custom lexer and parser to construct ASTs from user input according to operator precedence. Supports common bash syntax and operators such as pipes, redirects, boolean operators, etc

## Education

### Northeastern University | GPA: 3.846/4.0 | Magna Cum Laude

Boston MA

BACHELOR OF SCIENCE IN COMPUTER SCIENCE AND COMPUTER ENGINEERING

May 2020

Courses: AI, Algorithms & Data Structures, Software Development, Object Oriented Design, Computer Systems, Database Design

Extracurricular: Vice President of Wireless Club, an Electrical Engineering club. Hosted various hackathons and workshops

INTERESTS: LINUX, TRADER JOES, GLASSBLOWING, SURFING, READING, HIKING

LAST UPDATED: APRIL 2021