

# Thomas Harmon

COMPUTER ENGINEER · SOFTWARE DEVELOPER

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## Education

### Northeastern University | GPA: 3.85/4.0

Boston MA

BACHELOR OF SCIENCE IN COMPUTER SCIENCE AND COMPUTER ENGINEERING

May 2020

Relevant Courses: Artificial Intelligence, Intro to Machine Learning, Algorithms & Data Structures, Software Design, Object Oriented Design, Computer Systems, Logic & Computation, Database Design, Electronics, and Digital Logic & Design

## Skills

**Languages** Java, JavaScript, Python, C/C++, SQL, CSS, HTML, MATLAB

**Frameworks and Tools** React, TensorFlow, J2EE, Spring, Hibernate, NodeJS, Git, Docker, Gatsby, ROS

## Work Experience

### PowerAdvocate

Boston MA

FULL STACK SOFTWARE DEVELOPER INTERN

July 2019 - Dec. 2019

- Full stack development of a SaaS application with React, NodeJS, and Java.
- Assisted in redesign of a J2EE monolithic web application into a Micro-Service Oriented Architecture and monetizable API.
- Researched, implemented, and presented database optimizations for increasing performance of customer features by 5-30x.
- Collaborated with other developers by pair programming. Practice Agile Development under a Continuous Flow framework.

### Northeastern University RIVeR Laboratory

Boston MA

UNDERGRADUATE RESEARCHER

Jan. 2018 - July 2018

- Developed facial recognition and person following packages using ROS, Python, and C++ for the Toyota HSR in a RoboCup@Home competition.
- Competed in a RoboCup@Home competition in Montreal, Canada as part of a team of researchers. Placed 4<sup>th</sup> internationally.
- Researched optical flow, implementing multiple algorithms and testing performance. Conceived of and built a prototype autonomous navigation system based on optical flow using ROS, Python, and OpenCV.

### Draper Laboratory

Cambridge MA

ADVANCED CONCEPTS INTERN

Jan. 2017 - July 2017

- Created a Java application to translate system engineering models between the modeling languages OpenMETA and sysML.
- Designed a graph database to support continuous integration of system engineering models to modernize the file system approach in use.
- Integrated database and Java app into a continuous integration workflow for engineering models, greatly improving engineering efficiency.
- Utilized ANSYS Electronic Desktop to model operational effects of varying RF wavelengths on a PCB based on trace dimensions.

## Technical Projects

### Touchless User Interface

Boston MA

COMPUTER VISION, MACHINE LEARNING | PYTHON, OPENCV, TENSORFLOW

Summer 2019

- A year long, team capstone project to build a computer-vision based touchless user interface with a monocular RGB camera and machine learning. Recognizes static or dynamic gestures and allows new gestures to be trained on demand and linked to a repository of IoT applications.

### Personal Website | Harmon.tech

Boston MA

WEB DEVELOPMENT | REACT, JAVASCRIPT, HTML, CSS, GATSBY

Summer 2019

- Designed and developed a responsive website to display personal projects and a professional resume.

## Extracurricular Activities

### Wireless Club

Boston MA

VICE PRESIDENT

Oct. 2015 - Sept. 2017

- Organized introductory workshops to raise newcomer retention, doubling club-wide weekly meeting attendance.
- Hosted 48-hour long hackathons, challenging 20+ competing teams to rapidly prototype themed electronics hardware.

### Punahou School

Honolulu, HI

GLASSBLOWING HOBBYIST

Sept. 2015 - Present

- Invited to display pieces at an art show. Only student chosen for a month long summer apprenticeship under glassblower Russ Katto.