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.
- Orchestrated 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 4th 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.