Thomas **Harmon**

SOFTWARE DEVELOPER · COMPUTER ENGINEER
Available for Full Time Positions May 2020

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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*
Courses: Artificial Intelligence, Algorithms & Data Structures, Software Design, Object Oriented Design, Systems, Database Design

Skills

Languages   Java, JavaScript, Kotlin, Rust, Python, C/C++, SQL, CSS, HTML
Frameworks and Tools React, Elasticsearch, AWS, TensorFlow, Jest, Kotlintest, Git, Docker, Gatsby, ROS

Work Experience

PowerAdvocate   *Boston MA*
FULL STACK SOFTWARE DEVELOPEMENT CO-OP | REACT, JAVASCRIPT, JAVA, ELASTICSEARCH, AWS   *July 2019 - Dec. 2019*
- Researched, implemented, and presented database optimizations that increased performance for clients by 5-30x.
- Contributed to redesign of a monolithic web application into a microservice-oriented architecture and monetizable API.
- 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*
- Developed facial recognition and person following packages for the Toyota HSR in a RoboCup@Home competition.
- Placed 4th internationally in a RoboCup@Home competition in Montreal, Canada as part of a team of 6 researchers.
- Researched, built, and tested a prototype autonomous navigation system based on optical flow.

Draper Laboratory   *Cambridge MA*
ADVANCED CONCEPTS CO-OP | JAVA, ANSYS   *Jan. 2017 - July 2017*
- Created a Java application to translate system engineering models between OpenMETA and sysML.
- Modernized existing file system approach by utilizing a graph database as a single source of truth for system engineering models.
- Integrated database and Java app into continuous integration workflow for engineering models, greatly improving efficiency.
- Utilized ANSYS Electronic Desktop to model operational effects of varying RF wavelengths on a PCB based on trace dimensions.

Technical Projects

gshell   *Boston MA*
SYSTEM SHELL | RUST   *Sep. 2019 - Present*
- Implemented a custom lexer and parser to construct ASTs from user input. Supports operators such as pipes, redirects, etc.
- Currently creating user-friendly features such as command history and fuzzy auto-complete.

Personal Website   *Boston MA*
WEB DEVELOPMENT | REACT, JAVASCRIPT, HTML, CSS, GATSBY   *July 2019*
- Designed and developed a responsive website to display personal projects and a professional resume.

Touchless User Interface   *Boston MA*
COMPUTER VISION, MACHINE LEARNING | PYTHON, OPENCV, TENSORFLOW   *May 2019 - May 2020*
- Collaborated with a team to build a computer-vision based touchless user interface using an RGB camera and machine learning.
- Created a CNN to recognize gestures, train new gestures on demand, and link gestures to a repository of IoT applications.

Extracurricular Activities

Wireless Club   *Boston MA*
VICE PRESIDENT   *Oct. 2015 - Sep. 2017*
- Organized introductory workshops to raise newcomer retention, increasing club-wide weekly meeting attendance by 2x.
- Hosted 48-hour long hackathons, challenging 20+ competing teams to rapidly prototype themed electronics hardware.

INTERESTS: GLASSBLOWING, SURFING, READING   LAST UPDATED: AUG. 2019