Matthew Heim

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EDUCATION

Northeastern University, College of Engineering, Boston, MA **Expected December 2020**

- BS, Computer Engineering
- Dean's Scholarship
- **GPA: 3.6**

Relevant Courses: Wireless Sensor Networks and the IoT, Computer Architecture, Robotics Sensing and Navigation, Machine Learning, Computer Graphics, Digital Logic and Computer Organization, Computer Systems, Engineering Algorithms, Networks, Embedded Design, Probability and Statistics.

TECHNICAL WORK EXPERIENCE

Intel Corporation, Hudson, MA, *IP RTL Logic Design Co-op* **Jan 2020 – Jun 2020**

- Used SystemVerilog on a Linux system to learn and improve on the structure of an existing hardware IP (Intellectual Property). Debugged hardware code errors marked by a Synopsys verification tool.

Northeastern University ECE Department, Boston, MA, *Embedded Design Teaching Assistant* **Sep 2018 – Oct 2019**

- Assisting in running the lab for the Embedded Design course with Prof. Julius Marpaung. The course teaches students about programming software and hardware in an embedded Linux environment.
- Helping students with technical problems during design projects and labs.

BAE Systems, Burlington, MA, *Technical R&D Co-op* **Jan 2018 – Aug 2018**

- Research and Development in controls, estimation, learning, and autonomy.
- Used Python and OpenAI Gym to develop a defense-related multi-agent reinforcement learning simulation environment.
- Assisted a small group with C++ programming for a game theoretic scenario.

Mercury Systems, Chelmsford, MA, *Summer Intern* **Jun – Aug 2015 and 2016**

- Composed a user guide for a developing web tool for managing Mercury products (2015). Used Excel and requirements traceability to organize board requirements and assisted in writing a bash shell script for testing compliance of boards to a government standard (2016). Developed bash scripts in a Linux environment.

SPECIALIZED SKILLS

Programming Languages: Python (primary), C++, C, Verilog, MATLAB, Bash
Programs: Embedded Linux, ROS, Excel, AutoCAD, SOLIDWORKS, Simulink, SPICE

RECENT PROJECTS

Human Detection with LIDAR **Spring 2019**

- Used basic Machine Learning techniques on input point cloud data to detect human-like clusters. Used an autonomous car with multiple LIDAR sensors, working with a small team.

Robot Soccer **Fall 2017**

- Programmed path planning algorithms and robot soccer behaviors in Python using the Anki Cozmo SDK and OpenCV.