

NICHOLAS S. BRADFORD

nsbradford@wpi.edu | linkedin.com/in/nsbradford | github.com/nsbradford | 781-439-2953

EDUCATION

WORCESTER POLYTECHNIC INSTITUTE (WPI)

B.S. in Computer Science, Minor in Robotics | GPA: 3.6/4.0

May 2017

RELATED COURSEWORK:

Software Engineering • Artificial Intelligence • Machine Learning • Software Security • Compilers* • Object-Oriented Analysis and Design • Algorithms • Operating Systems • Computer Networks

EXPERIENCE

SILICON LABS | SOFTWARE ENGINEERING INTERN | Boston, MA

May 2015-Aug 2015

- Created a multithreaded **Python** (PyQt) tool to facilitate tests on over-the-air transmissions by interfacing with hardware and plotting transformed data in real-time.
- Wrote a comprehensive series of security fuzz tests using **Java** and **C** for the Thread mesh networking protocol stack, discovering and fixing several crashes and vulnerabilities.

JACOBS TECHNOLOGY | SOFTWARE INTERN | Nashua, NH

May 2014-Jan 2015

- Used **C++** and **C#** to extend mission planning software for the Boeing KC-46 military aircraft, resulting in conversion of raw data into a useful **HTML** summary format for pilots.
- Worked on an **Agile** team of 20 engineers to rigorously test and review critical code.

PROJECTS

AUTOMATED TRADING RESEARCH | WPI, Personal

Sept 2015-Present

- Applying **machine learning** to stock market data to create automated trading strategies.
- Using clustering (scikit-learn) to group stocks by behavior, and Long Short-Term Memory (LSTM) **recurrent neural networks** (Lasagne) to predict intraday price movement (Quantopian Zipline)

PARK HOTSPOT ANALYSIS | CERES | Melbourne, Australia

Oct 2015-Dec 2015

- Developed a combined observation/analysis technique for the CERES Environment Park to identify high-traffic areas using data mining, providing several useful recommendations for exhibit alterations.
- Used **OpenCV** to extract data recordings from satellite images, **scikit-learn** for point clustering, **matplotlib** for heat maps, and **PIL** for editing output images.

SIXES WILD | WPI

Mar 2015-May 2015

- Implemented a desktop clone of Candy Crush in **Java** (Swing) with a team of 5, surpassing project expectations by additionally implementing a predictive game simulator.

MAZE RUNNER ROBOT | WPI

Oct 2014-Dec 2014

- Programmed a 4-wheeled **Arduino** robot to autonomously locate and extinguish a fire in a maze using ultrasonic rangefinders, infrared sensors, encoders, and a gyroscope.

SKILLS

PROFICIENT | C • C++ • Java • Python

FAMILIAR | C# • MATLAB • HTML • CSS • JavaScript • SQL

LEADERSHIP

PRESIDENT | Investing Association

Feb 2016-Present

- Leading 20 students in financial education, simulated portfolio management, and competition.
- Founded an additional spin-off group for student collaboration on automated trading systems.
- Created a website using **Bootstrap** (at users.wpi.edu/~investing) to facilitate PR.

INTERNAL GOVERNANCE CHAIR (VP) | Phi Kappa Theta Fraternity

Jan 2016-Present

- Serving as advisor for event planning, enforcer of the chapter bylaws, and lead web designer.

AWARDS

Omicron Delta Kappa (National Leadership Honor Society)

Dec 2015-Present

Legacy Leader (Leading Edge Program)

Oct 2014-Present

Dean's List (recurring)

Aug 2014-Present

**Coursework to be completed by May 2016.*