

TAJ MORTON

Email: mortont@onid.oregonstate.edu

Education:

Oregon State University, Corvallis, OR
Degree: M.S. in Computer Science (Machine Learning)
September 2012 – Present
GPA: 3.82/4.0
Expected Graduation: Summer 2014

Oregon State University, Corvallis, OR
Degree: B.S. in Computer Science
September 2008 – June 2012
GPA: 3.73/4.0

Skills:

- Proficient in Java, Python, SQL, PHP, C, C++, CSS, HTML, Bash, R, Ruby On Rails, Javascript, Qt, SGE
- Linux Server Administration Experience
- Experience with Amazon Web Services Tools: EC2, DynamoDB, SimpleDB, Elastic Beanstalk, SNS, SQS
- Experience With Microcontrollers, Embedded Linux, and Robotics
- Applying Machine Learning Techniques to Biological Systems
- Designing and Developing Java Desktop, Server, Mobile, and Web Applications in Cloud Environments
- Linux Server Administration Experience

Experience:

- **Megraw Lab, Oregon State University, Corvallis, OR:** *Graduate Research Assistant (Feb. 2013 – Present)*
Assisting with research in lab focusing on computational approaches to genetic regulatory network discovery and modeling. Wrote genetic data processing scripts, created predictive models for gene transcription, and worked with lab members to create models of other facets of gene regulation and expression.
- **VLSI Lab, Oregon State University, Corvallis, OR:** *Graduate Research Assistant (Sep. 2012 – Feb. 2013)*
Designed and implemented improved data storage web service based on lessons learned during Senior Capstone Project (below). Assisted other students develop applications for and interface with new service.
- **Space Exploration Technologies, Los Angeles, CA:** *Flight Software Intern (June – Sep., 2011 and 2012)*
Developed flight software for Dragon cargo transport capsule. Maintained and added features to internal web-based tools for configuration verification. Developed testing harness to automate verification of configuration files and meet customer requirements for testing. Wrote tools and scripts for performing hardware testing to meet customer requirements and perform software verification. Documented results of testing in report delivered to customer.
- **Oregon State University, Corvallis, OR:** *Senior Capstone Project (September 2011 – June 2012)*
Designed and implemented cloud-based time-series data storage web service based on Amazon Web Services tools for storage and analysis of generic sensor data. Developed desktop and Android applications for streaming sensor data to database and analysis tools for activity and location tracking. Developed library to interface data storage service to MATLAB for data analysis. Created web-based front-end for real-time plotting of data.
- **WET Labs, Philomath, OR:** *Firmware Development Intern (June 2009 – October 2010)*
Developed 802.11 wireless capabilities for underwater optical scientific instruments. Implemented firmware for aggregating data from multiple wireless instruments. Wrote firmware to perform statistical and mathematical analysis on data, and transmit results via Iridium satellite modem. Developed Java applications for displaying data and configuring instruments remotely. Wrote documentation for software and guides for using instruments. Assisted with field deployments and performed in-field repairs and troubleshooting of instruments.
- **Oregon State University, Corvallis, OR:** *Teaching Assistant (Sep. 2009 – March 2011, Sep. 2012 – Present)*
Led recitations for Java, MATLAB, and robotics classes and graded projects and exams.
- **OSU Robotics Club Mars Rover Team:** *Lead Programmer (September 2008 – June 2011)*
Led a team of programmers to develop C and C++ firmware and software for OSU's entry into the University Rover Challenge. Established deadlines, assigned tasks, and ran weekly update meetings for team. Wrote firmware for custom USB devices, designed communication protocols, and wrote user interface (C++/Qt) controlling rover over wireless serial link.

Leadership/Activities:

- **OSU Robotics Club: Various Positions (including President) (September 2008 – Present)**
Responsible for running weekly meetings to organize club activities, fund raising, recruitment, publicity, recruiting and organizing volunteers for local *FIRST* robotics competitions, and maintaining the club's website.
- **FIRST Robotics Team 847: Mentor (November 2009 – March 2010)**
Taught high school students programming languages and software design techniques for programming autonomous robots. Organized workshops, led brainstorming and design review meetings, and worked with other mentors and students to build a robot in a six week time frame.

Papers:

- **A general model for Transcription Start Site identification:** (In preparation for *Bioinformatics*.)
- **Paired-End Analysis of Transcription Start Sites in *Arabidopsis* Reveals Plant-Specific Promoter Signatures:** (In press in *The Plant Cell*.)
- **Location and Activity Tracking With The Cloud:** *Morton, T.; Weeks, A.; House, S.; Chiang, P.; Scaffidi, C.*
Engineering in Medicine and Biology Society (EMBC), 2012 Annual International Conference of the IEEE

References: *Available Upon Request*