W. Hayden Fuss

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EDUCATION

North Carolina State University, Raleigh, NC — August 2013
Major: B.S. Computer Science, Minor: Materials Science and Engineering **Current GPA: 4.0** Graduation: December 2016

Florida Southern College, Lakeland, FL — August 2012 – April 2013
Major: B.S. Chemistry, Mathematics **GPA: 4.0**

TECHNICAL SKILLS

Languages: Java, C/C++, Javascript, Python
Experience: Git, C#, Unity, MongoDB, WebGL, Nginx, Docker, MySQL, AngularJS, NodeJS, Eclipse, GSON, Flask
Platforms: Windows 7/8, Mac OS X, Ubuntu 12/14, Fedora 23

WORK EXPERIENCE

RED HAT – *Raleigh, NC*
Software Engineering Intern, *May - August 2016*

- Worked as a full stack developer on an internal application used by Red Hat's Support Delivery team.
- Developed a job runner for executing interval tasks that maintain our Mongo database using Python's multiprocessing library.
- Created a user and admin UI for utilizing and managing the job runner with AngularJS and Bootstrap.
- Assisted with configuring Docker containers for the development and production instances of our server.

NORTH CAROLINA STATE UNIVERSITY – *Raleigh, NC*
Dr. Yaroslava Yingling's Research Group – Research Assistant, *November 2013 – May 2016*

- Wrote a C++ shared library for initializing and processing DPD and other coarse-grained simulations.
- Implemented a cell-list algorithm for determining clusters of objects in 3-D space with Periodic Boundary Conditions.
- Submitted simulations and other programming scripts on NCSU's HPC and our group's GPU cluster using Bash and Python.
- Served as co-author for two articles, *Macromolecular Theory and Simulations (08/14/2014)* and *Soft Matter (08/18/2015).*

HARVARD UNIVERSITY, TRICAM REU – *Cambridge, MA*
Institute of Applied Computational Science – Research Appointment, *June - August 2015*

- Conducted data analysis of geo-coded Tweets, 911, and 311 datasets from the time of the Boston Marathon Bombings.
- Developed a Python module for plotting geo-coded data over maps of the greater Boston area.
- Experimented with Twitter sentiment analysis using a variety of classifiers from Python's scikit-learn.

ADDITIONAL PROJECTS

- **Building Game AI,** CSC 484, Spring 2016
  - Used Java and Processing to implement steering and path-finding algorithms, such as seek and A*
  - Created more complex actions for characters by developing behavior and decision trees
  - Implemented a decision tree learning algorithm designed to observe Boolean state variables
- **Proxy, a 2D Puzzle Platformer,** Spring 2015 – Fall 2016
  - A video game designed and programmed using Unity and C# scripting
  - Features moving platforms, lasers, parallax scrolling, particle effects, time trial mode and online leaderboards
- **Implementing the Multiple Hypothesis Tracking (MHT) Algorithm,** Spring 2016
  - Senior Design Project for the Laboratory of Analytical Sciences (LAS), mentored by Dr. James Keiser
  - Worked on a team of four students, developing a generalized MHT implementation in Java that could be easily extended for experimenting with different optimizations