Jay Speidell

Software Engineering
Data Science

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*My website shows off some cool projects, check it out!

Education ⸺

B.S. Computer Science | 2020
Old Dominion University | 3.94 GPA

B.A. English | 2011 | Virginia Tech

Skills ⸺

Programming:
• C/C++
• Java
• Python

Software Engineering:
• Cloud Computing (AWS, GCE)
• Continuous Integration
• Linux/Unix
• REST APIs (Flask)
• SSH
• Unit Testing
• Version Control (Git, Github)

Data Science:
• Data Exploration & Cleaning
- Pandas
• Data Visualization
- Folium
- Pyplot
- Seaborn
• Machine Learning
- Numpy
- Pytorch
- Scikit Learn
- Scipy
- Tensorflow
• SQL
• Statistics

Software Engineering

ODUConnect - Software Engineering Project (Portfolio Link)
An interactive web app to connect industry professionals with mentoring opportunities at ODU.
- Built continuous deployment pipelines.
- Led the front-end design, including process flows, UX, UI, and database requirements.
- Developed and deployed a REST API in Flask.
- Broke front end components into discrete tasks and assigned to team with instructions and tutorials to implement in ReactJS.
- Presented functional prototype to an industry review board.

CPU Temperature Approximation (GitHub Link)
An approximation and interpolation application with matrix solver module.
- Developed algorithms for matrix solver and cubic spline, linear least squares, and piece-wise interpolation.
- Created unit tests and documentation.
- Wrote application in Python.

PySwarms Open Source Contribution (Portfolio Link)
Open source contributions to a particle swarm optimization research library in Python.
- Created new objective functions for benchmarking and improved existing ones, along with full unit test coverage.
- Discovered opportunity to improve visualization with Pyplot gradient options and submitted the feature as a separate pull request.
- Delivered code conforming to contribution guidelines and project style.

Data Science

Toxic Comment Classification (Portfolio Link)
Analysis and modeling of Wikipedia comments.
- Performed a statistical analysis of comment data to inform data processing, feature engineering, and ML strategies.
- Created and tested new features using benchmark models.
- Developed a Support Vector Machine model incorporating a custom Naive Bayes weight feature transformer that effectively identified toxic comments.

Galaxy Zoo Challenge (Portfolio Link)
Describe galaxies with space telescope data.
- Created a data processing pipeline that extracts the region of interest from images and transforms data into Pytorch tensors.
- Developed a convolutional neural network that accurately describes images and achieves goal root mean-square error.

3D Printed Trail Maps (Portfolio Link)
I transform raw elevation, hydrographic, and GPX data into 3D maps overlaid with hiking and mountain biking trails.

Work Experience

Nov'15-Present	Marketing Manager at Momentum, Inc	Seattle, WA
Mar'08-May'15	Special Projects Manager at The Speidell Group	Lynchburg, VA
Jul'11-Mar'14	Kindergarten Teacher at Multiple Private Schools	Seoul, Korea