# Jay Speidell

## Software Engineering
## Data Science


jayspeidell.com*

jayspeidell@gmail.com

github.com/jayspeidell

434.329.2371


*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

Communication:
• Project Management
- Delivered a proposal automation platform to a client of The Speidell Group.
- Led a noteworthy software engineering capstone team project.
- Continually deliver collaborative marketing projects as a Marketing Manager.
• Cross-Cultural Sensitivity
• Technical and Non-Technical Writing

## 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 that I prioritized and assigned to team members with instructions and tutorials to implement in ReactJS.
- Led my team to develop the most polished and functional prototype since course was created, setting a new standard for future cohorts.

### CPU Temperature Approximation (GitHub Link)

A Python application with matrix solver module built from scratch that continuously approximates discrete time series data.

- Developed algorithms for matrix solver and cubic spline, linear least squares, and piece-wise interpolation.
- Created unit tests and documentation.

### PySwarms Open Source Contribution (Portfolio Link)

Open source contributions to a particle swarm optimization research library in Python that enable researchers to better understand their models.

- Created new objective functions for benchmarking and improved existing ones, along with full unit test coverage.
- Discovered opportunity to improve visualization with Pyplot gradients and submitted the feature as a separate pull request.

## 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

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|---|---|---|
| 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 | English Immersion Teacher at Multiple Private Schools | Seoul, Korea |