

Jay Speidell

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 Languages:

- C/C++
 - Java
 - Python
- (Incl. Flask, Jupyter, Numpy, Pandas, Pyplot, PyTorch, Scikit-Learn, all the fun data science tools.)

Data Science:

- Data Visualization
- Deep Learning
- Exploratory Data Analysis
- Machine Learning
- Relational Databases
- SQL, Elasticsearch
- Statistics

Computer Science:

- Cloud Computing / High Performance Computing (AWS, GCE)
- REST APIs (Flask)
- Software Engineering:
 - Continuous Deployment
 - Project Management
 - Version Control (Git, Github)
- SSH (I basically live in the terminal)
- Linux/Unix (Desktop and Server)

Design Skills:

- 3D (OpenSCAD)
- Document (InDesign, LaTeX)
- Raster (Gimp, Photoshop)
- Software (Unified Modeling Language)
- Vector (Illustrator, Inkscape)

Work Experience

- Nov'15-Present Marketing Manager at Momentum, Inc Seattle, WA
- Developed effective annual marketing strategies that delivered a consistently growing stream of inbound leads.
 - Migrated to HubSpot CRM and built policies and automated workflows integrating sales and marketing pipelines, resulting in better prospect tracking, more targeted sales outreach, and a dramatic increase in engaged leads for the sales team.
 - Drove increased website traffic and conversions through industry-leading content, including the Momentum Insights blog and the data-driven whitepaper [A Study of Credit Union Workplaces and the Future of Work](#).
- Mar'08-May'15 Special Projects Manager at The Speidell Group Lynchburg, VA
- Helped clients take their marketing to the next level with high quality photography, promotional videos, and other collateral.
 - Automated a client's manual estimation and proposal drafting process with the development of an automated system.
- Jul'11-Mar'14 Kindergarten Teacher at Multiple Private Schools Seoul, Korea
- Helped children grow personally and academically by developing engaging lesson plans and making learning fun.

Projects

[Toxic Comment Classification \(Portfolio Link\)](#)

I analyzed a public database of Wikipedia comments and used the insights I extracted to build a Support Vector Machine classifier model incorporating Naive Bayes feature weighting to effectively predict whether a given comment is toxic.

[PySwarms Open Source Contribution \(Portfolio Link\)](#)

I implemented many new objective functions and updated existing ones, covering my contributions with new unit tests. I also improved the plotter module by adding support for Pyplot color gradients and fixed a performance issue.

[Galaxy Zoo Challenge \(Portfolio Link\)](#)

I used insights that I gained from analyzing images in the Galaxy Zoo dataset to develop a weighted MSE loss function that prevents dramatic gradient updated from sparse classes and uses OpenCV to extract the region of interest from each image. I then built a convolutional neural network (CNN) with PyTorch and trained it on the processed data to predict the confidence level of crowdsourced human classifiers.

[ODUConnect - Software Engineering Project \(Portfolio Link\)](#)

I led the front end development of a ReactJS web app to connect industry professionals with mentoring opportunities at ODU. I built the framework and continuous deployment pipeline and broke the work down into tasks which I assigned to team members, and I developed a REST API in Flask to connect the front end to an MSSQL database.

[CPU Temperature Approximation \(GitHub Link\)](#)

I built a matrix solver module from scratch and implemented cubic spline, linear least squares, and linear piecewise interpolation to approximate CPU temperature time series data using test driven development.

[3D Printed Trail Maps \(Portfolio Link\)](#)

Using raw elevation, hydrographic, and GPX data, I create 3D topographical models overlaid with hiking and mountain biking trails for 3D printing.