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 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.