Annabel Winters-McCabe

Software Engineer

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Education

Carnegie Mellon University: 2023 - M.S., Software Engineering
Davidson College: 2021 - B.S., Computer Science
Goethe Institut - B2 German Language Certification

Professional Experience

RetailMeNot — **Austin, TX**
Software Engineer — Jun 2021 - Present

- Utilising Spring Boot and Java 11 to refactor product-wide authentication into an Okta-powered service
- Working with GraphQL and React to build full stack features for an improved cashback product experience
- Collaborating with senior team members to tackle critical support items and bugs for cashback product services
- Ideating and building out new features geared towards improving user engagement with RetailMeNot products

AMDS Consulting — **New York City, NY**
Software Engineer — Feb 2021 - Jun 2021

- Used Python, Pandas, and Numpy to build new NLP features for AMDS' data pipeline
- Used SQL Server to create new automated query templates for data warehouse applications
- Responded to engineering support tickets for maintenance within production Python services and SQL server
- Collaborated with senior engineer to refactor production code and update dependencies across development stack

Project ALPhA — **Davidson, NC**
Machine Learning Research Fellow — Sep 2020 - Jun 2021

- Implemented a detector system for use with the Active Target Time Projection Chamber at the Facility for Rare Isotope Beams
- Studied the reaction between Magnesium-22 and an alpha particle to simulate similar reactions that occur in stars
- Collaborated with physicists at the Facility for Rare Isotope Beams to create scientifically accurate models
- Used Tensorflow and Python within Jupyter notebooks to develop machine learning models to filter data and determine the number of reaction products from events

Project ALPhA — **Davidson, NC**
Web Developer — May 2020 - Aug 2020

- Used Dash, Javascript, and Python to build out a web-based visualisation tool for machine learning research data
- Used Flask to create routes for Dash visualisation content delivery to the tool
- Used Flask to transfer context data across pages and deliver accurate analytics to users
- Leveraged existing machine learning models to build plots for Collinear Parton Distribution Functions
- Spearheaded codebase review with team to refactor depreciated files and methods

Flashmaps — **Davidson, NC**
iOS Developer — Jul 2020 - Aug 2020

- Used Swift to develop an MVP iOS App for a mobile flash card application
- Implemented gesture recognition to prompt animated feedback for users
- Conducted research into Firebase Realtime DB and Cloud Firestore to handle efficient storage of images and text data
- Developed custom solutions to handle user entry of colours for cards
- Integrated camera and gallery functionality to allow for custom user generated media

Bluebonnet Data — **South Bend, IN**
Data Fellow — Mar 2020 - Jun 2020

- Interacted with the VoteBuilder platform to aggregate target demographic data for potential voters

- Used Python to clean data and build models for predicting election outcomes
- Worked with team to restructure and streamline the data infrastructure to better enable ongoing research efforts

Additional Projects

Checkbox
Used PostgreSQL, Express, React, and Node.js to create a to-do list application that stores each task in a database and allows for adding, editing, deleting, and "checking off" of tasks.

Book-Worm
Used Python to implement a recommender system that predicts if a user will like a book given a CSV file of rating data. Using Tensorflow to develop a Neural Collaborative Filtering model, Amazon S3 to store processed data, and Amazon SageMaker to deploy the trained model through an endpoint.

Wiki-Woof
Used Python to create a web scraping tool that queries Wikipedia pages for image URLs and collects them in a text file. Using subsequent URL data to build, train, and test an image classifier that takes in both a broad category and a user provided image and returns whether the image is related to the category or not.

Schelling-Model
Used C to create a simulation of Schelling's Model of Segregation, an agent-based economic problem about housing.

Image-Segmenter
Used Java to develop an Image Segmenter using a disjoint set forest.

Skills

AWS • C • Docker • DynamoDB • Express • Firebase • Flask • GCP • Go • Java • Javascript • Jupyter • MongoDB • MySQL • NodeJS • Numpy • Pandas • PostgreSQL • Python • React • S3 • Sagemaker • Spring Boot • SQL • Swift • Tensorflow