Ajay Sarjoo

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EDUCATION

Stony Brook University   Stony Brook, NY
Bachelor of Science in Computer Science and Applied Math and Statistics   *Expected May 2021*
Relevant Courses: Data Structures, Analysis of Algorithms, Systematic Program Design, Coding, and Testing, Machine Learning, Natural Language Processing, Systems Fundamentals I & II, Principles of Database Systems, Principles of Programming Languages

EXPERIENCE

Machine Learning Researcher   December 2019 - Present
Ethos Lab   *Stony Brook, NY*

- Built and trained several convolutional neural network classifiers on multiple image datasets to explore the correlation between model accuracy and mobile device performance
- Implemented data augmentation algorithms and image normalization on data loading scripts, resulted in a 10% improvement in model training performance
- Leveraged knowledge in Python, specifically in frameworks such as TensorFlow, OpenCV, and NumPy

Teaching Assistant for Fundamentals of Software Development   August 2019 - May 2020
Stony Brook University - Department of Computer Science   *Stony Brook, NY*

- Supported over 220 students in CSE 316: Fundamentals of Software Development under Professor Richard McKenna
- Assisted students with software development techniques in scalable software design, event-driven and web programming, databases, and code maintainability
- Facilitated student learning through weekly office hours and resolved additional concerns through discussion boards and emails

Software Engineering Research Assistant   January 2019 - December 2019
PoliTech   *Stony Brook, NY*

- Established security protocols that provide control over permissions using the Django framework in Python
- Assisted with the development of the schema to store political data, such as state demographics and boundaries, using MySQL
- Integrated the Django Rest Framework to establish routing endpoints for API calls to PoliTech's MySQL database

Data Science and DevOps Intern   May 2019 - August 2019
Bloomberg LP - Electronic Trading Operations (ETO)   *New York, NY*

- Developed a natural language processing heuristic that implements topic modeling on over six million tickets to determine commonly asked questions by clients, created an API to provide business insight made possible by the topic modeling
- Streamlined ETO's workflow for executing backend cleanup scripts by building a web application that creates and executes these scripts based on user-specified parameters
- Decreased the number of logout suppression errors by creating a scalable recommendation system that analyzes client activity and suggests a weekly schedule for monitoring sessions
- Increased employee workflow productivity by implementing a key feature in ETO's Web Portal that generates links to active Splunk sessions that monitor over 10000 client tickets
- Wrote a backend application that correctly identified over 260 unused dashboard sources and over 300 old and nonexistent MySQL stored procedures in ETO's dashboard collection web application
- Utilized data visualization tools such as Seaborn and Matplotlib to create heatmaps that showcases analysis on certain areas of the business
- Leveraged knowledge in Python, specifically frameworks such as Flask and Django, web development languages such as HTML, CSS, and JavaScript, and machine science libraries such as NLTK, Sci Kit-Learn, and pyLDAvis

Data Management Intern   July 2018 - August 2018
PENCIL, Inc.   *New York, NY*

- Created an algorithm in Python that verified over 2000 commercial and residential addresses from old databases
- Scraped NYC Department of Education websites for over 1200 public schools that had missing identification credentials used for school verification
- Implemented an application that parses NYC public school data to fill in missing credentials for over 800 schools in a database

Lab Consultant   January 2018 - Present
Stony Brook University - Office of Campus Residences   *New York, NY*

- Managed a computing lab used by more than 300 residents on a weekly basis
- Maintained hardware and software requirements for all computers
- Assisted residents with technical issues and troubleshot software failures

PROJECTS

PressPlay - *MongoDB, Express.js, React.js, Node.js*   May 2020 - June 2020
- Created a full-stack web application that emulates a video-streaming service
- Developed several database schemas for thousands of users and video storage information using MongoDB
- Stylized the look and feel of the user interface components using React.js
- Implemented a secure login system, drag-and-drop video uploading, comments, and likes/dislikes for videos using Express.js

SAK's Trading Post - *Java, MySQL, HTML, CSS, JavaScript*   January 2019 - May 2019
- Facilitated the development of a full-stack online stock-trading app for a course project
- Designed the schema and relevant tables to store customer and stock data using MySQL
- Customized user interface for different types of users using HTML, CSS, and JavaScript
- Engineered backend operations that support over 40 stock and order transactions using Java

Chef Wolfie - *Python, Flask, Vue.js, MongoDB, HTML, CSS*   February 2019 - March 2019
- A webapp that shows students and staff of Stony Brook University customized dining options for over 12 locations on campus
- Scraped food data for over 300 campus menu options using Python and created API endpoints to access filtered data with Flask
- Assisted with the compilation of a user's guide in HTML and CSS that showcases how to use the app

Course Site Generator - *Java, JavaFX, HTML, CSS, JavaScript*   August 2018 - December 2018
- Developed a course project that allows instructors to dynamically generate webpages for their courses
- Customized user interface functionality in JavaFX to include course events, office hours, and teaching assistant information
- Integrated JSON and XML to save, load, and export information and HTML, CSS, and JavaScript to generate the webpages
- Wrote over 10,000 lines of code and adopted industry-standard design practices when implementing this application

Opus Financial Manager - *Python, Vue.js, Node.js*   September 2018 - October 2018
- Trained a linear regression model to predict stock trends based on closing stock prices and Google Trends scores using Pandas, NumPy, and Sci-Kit Learn
- Optimized the model to consider predicted stock prices based on daily positive and negative company news in the past five years
- Generated smart recommendations based on the trend-line of a stock's prediction model

NutriBuddy - *Python, SQLite3, Flask*   February 2018 - March 2018
- Created a Facebook Messenger bot that tracks nutritional goals for Stony Brook University students and faculty
- Utilized the Facebook Graph API to interact with the user while logging fitness data in a conversational manner
- Won Best Nutrition Hack at SBU HackHealth 2018

Jack's aMAzin' Textbook Rentals - *Java, Android Studio*   January 2018 - February 2018
- Conceptualized, designed, and developed an Android app to complement an online library system for a data structures assignment
- Shaped user interface and functionality in custom XML layouts and Android Studio GUIs
- Created custom data structures which increased the efficiency of interactions between stored books

Cookies and Creme Milkshake Robot - *C++, Arduino*   October 2017 - November 2017
- Led a team of seven members to create and develop the robot for a robotics competition
- Programmed the robot operation of a colored-block collection mechanism
- Integrated code to read in data values from an Xbox controller and output to the Arduino robot

SKILLS

Languages: Java, Python, MySQL, C   **Web Development**: HTML, CSS, JavaScript, Node.js
Data: TensorFlow, NLTK, Sci-Kit Learn, Pandas, NumPy   **Tools and Technologies**: Git, Trello, Docker
Frameworks: Flask, Django, React.js, Express.js   **Software**: Jupyter Notebook, Android Studio