# 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

**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
- 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

## 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

**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

**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

## Skills

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