

Avik Kadakia

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EDUCATION

Stony Brook University, *Stony Brook, NY*

Anticipated graduation: Dec. 2020

Bachelor of Science in Computer Science, GPA: 3.51

Relevant Course Work: Natural Language Processing, Software Engineering, Analysis of Algorithms, System Fundamentals II, Computer Networks, Scripting Languages, Data Structures, Graph Theory and Combinatorics, Probability and Statistics

RELEVANT EXPERIENCE

Software Engineering Intern (*Alarm.com, McLean, VA*)

Jun. 2020 – Aug. 2020

- Created an Interactive Sales Map with management and analytic capabilities that displayed locations and other specifics of over 24,000 datapoints
- Executed calls to the HERE Maps API for JavaScript and displayed over 50 domestic and international sales rep territory assignments
- Enhanced the page life cycle to reduce the number of API calls, SQL queries, and JavaScript loading time to reduce the page load time by 95%
- Worked with pre-existing code, added new frontend (ASP.NET and JavaScript) and backend (C#) business logic to implement new features, business needs, and bug fixes, and identified and optimized the performance of problematic queries to improve SQL Server performance
- Interacted with Software Engineers, Project Managers, Quality Engineers, and members from the Sales team of over 50, to gather requirements, and collect continuous feedback
- Presented the Interactive Sales Map to the executive staff and members of various teams and submitted an idea for a pending patent

Management Information Systems Intern (*Steve Madden, Long Island City, NY*)

Jun. 2019 – Aug. 2019

- Wrote scripts in Java and Python that organized the hierarchy of the company, updated records and backed up data
- Documented the procedure to encrypt and reimage, and trained colleagues as applicable
- Encrypted over 125 devices with BitLocker by equipping PowerShell, to prevent important information from being unwillingly extracted
- Reimaged over 75 devices to provide the user with optimum experience and security

Teacher's Assistant (*CSE, AMS, MAT, and GEO Departments; Stony Brook University, NY*)

Aug. 2018 – Present

- Facilitated over 1200 students' learning by helping with homework and other questions through discussion boards, emails, and hosted review sessions
- Supervised lab sessions, held recitations, hosted office hours, single-handedly designed homework assignments and exam papers, and graded tests

RESEARCH

Frugal ML under Prof. Amir Rahmati Ph. D, Stony Brook University

Jan. 2019 – May 2020

- Built multiple CNN classifiers with a data loader, and a batch iterator to explore the correlation between precision and mobile device performance
- Mastered data augmentation, image normalization, early stopping, and learning rate optimization, resulting in a 12% improvement in accuracy
- Examined the concepts of Mixture of Experts to further saturate the learning, and optimize the TensorFlow models

Web Authentication Policy under Prof. Amir Rahmati Ph. D, Stony Brook University

Jun. 2019 – Dec. 2019

- Explored numerous websites that allowed users to create an account, and recorded their password requirements
- Analyzed the different types of password policies accepted, and examined them as they changed over time from over 220 websites
- Developed algorithms to collect different password requirements by importing Python libraries such as Scrapy and Selenium

Stock Price Analysis under Prof. Praveen Tripathi Ph. D, Stony Brook University

Sep. 2019 – Dec. 2019

- Trained a time series analysis model using the ARIMA model, and computed a forecast about the future prices within a 0.24% error margin
- Studied trends that caused certain changes in prices over time, and studied how the trends affected the company
- Retrieved stock prices for various companies, and analyzed changes by comparing them with other factors to see their cause

PROJECTS

Ratings Predictor (*Python*)

May 2020

- Performed sentimental analysis, utilizing 128-dimensional word2vec embeddings of over 34,000 product reviews in order to predict the ratings
- Upgraded the rating predictor to utilize 512-dimensional user-factor adaptation in a Ridge Classifier to improve prediction accuracy
- Improved the rating predictor and the word2vec model by improving the regularization strength to rank within the top 35 in the competition

Mood Lyric Generator (*Python*)

Apr. 2020

- Constructed bigram and trigram matrices, and applied add-k smoothing to the probability models for accurate predictions
- Developed a Logistic Regression based language model that trains on over 57,500 songs, and predicts the most probable next word
- Generated natural language for a genre based on the adjective classifier that earned 95% of the grade

PBX Telephone System (*C*)

Apr. 2020

- Implemented a Private Branch Exchange telephone system as a multi-threaded network server using low-level POSIX threads
- Designed and manipulated concurrent data structures while exploring thread execution, mutexes, semaphores, and socket programming
- Resulted in the PBX system being in the top 10% of the class that consists of undergraduate and graduate students

SKILLS

Programming Languages: Skilled in Java, Python, C, C#, JavaScript, HTML/CSS, MIPS (Assembly), Perl, Bash

Technologies/Tools: React.JS, Node.JS, ASP.NET, SQL Server, TensorFlow, Sci Kit-Learn, NLTK, Scrapy, Selenium, Flask, Atlassian Suite, Git
