Rajat Raghuwanshi

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EDUCATION

- **Master of Science in Computer Science** — GPA: 3.78/4.0
  New York University, New York, NY *Expected May 2023*
- **Bachelor of Engineering in Information Technology** — GPA: 8.54/10.0
  Savitribai Phule Pune University, India *May 2019*

PROFESSIONAL EXPERIENCE

Software Engineering Intern — *Amobee, New York, NY* *June 2022 – August 2022*

- Implemented remote caching and remote execution on **Bazel** buildtool and deployed it on Amobee Wide Kubernetes using **Kustomize** YAML files which reduced the build time of all builds across company by more than 70%.
- Generated a simple ML **time series forecasting model** for predicting the campaign performance using conversion rate and number of actions of ads for various line items.
- Demonstrated how Databricks can be integrated in Machine Learning Workflow at the company by understanding and using **AutoML** as well as **MLFlow** to create and deploy models respectively.

JavaScript Programmer — *EasyEyes, New York University, New York, NY* *January 2022 - August 2022*

- Implemented software for Online Vision Testing tool on top of PsychoJS named EasyEyes (https://easyeyes.app)
- Built stable and maintainable codebase, while enhancing the tool with new features like adding ICC color profiles for accurate image presentation.
- Researched and used JavaScript to generate HDR10 videos after generating required 10bit PNG images in the browser.

Software Engineer — *HSBC, Pune, India* *July 2019 - August 2021*

- Designed the prototype and built a **Full Stack Web Application** for automating incident Assignment using Angular, Node.js, Express and MongoDB with a team of 5 engineers in an agile environment which reduced the manual efforts of IT Support staff by more than 80%.
- Used **Docker Compose** to host the MEAN stack application in separate containers on the same host and implemented **continuous integration** and **continuous deployment** (CI/ CD) pipeline over it which reduced the deployment and release time of the application by more than 35%.
- Wrote a **python script** to generate csv files from Aternity every hour and scheduled a **Cron job** on Linux to push them to the needed server each day for running a Hadoop job which eliminated the requirement of manually uploading these files.
- Researched and implemented a **Machine Learning model** using clustering and cosine similarity to replace manual mapping of applications stored on two different databases with different naming conventions.

ACADEMIC AND PERSONAL PROJECTS GITHUB

DNA Sequence Analyzer — *Python, NLP, AWS Lambda, Sagemaker, DynamoDB, S3, API Gateway* *Fall 2021*

- Designed Prototype and used React with AWS Amplify to create the frontend for the Web Application.
- Designed a distributed load balanced web application for DNA sequence analysis of COVID-19 or other viruses.
- Researched and deployed a Natural Language Processing aided algorithm to display relative similarity between any two DNA sequences on real time data using Multinomial Naïve Bayes on a sagemaker endpoint.
- Used WhatsApp API to implement appointment booking dashboard via WhatsApp for better usability.

Voice Based Photo Album Search — *AWS VPC, Rekognition, Transcribe, CodePipeline* *Fall 2021*

- Configured a VPC instance to build an intelligent search layer in the cloud for querying photos using natural language through text and voice.
- Tagged the photos using AWS Rekognition services and indexed them using Elasticsearch at the time of upload.

Ticket Booking and Recommendation System— *Full Stack Web app with ML Recommendation System* *Fall 2021*

- Built the recommendation system using Item Based Collaborative Filtering based on their similarity scores.
- Developed a Full Stack Web Application used to book and generate E-tickets for users with backend REST API in Node.js and frontend in React.

Multilingual and Mixed Script Analysis — *Natural Language Processing* *Spring 2019*

- Researched on pre-existing Script and Language Identification, POS tagging, and Sentiment Analysis methods and devised an algorithm for the multilingual Sentiment analysis using the N-Gram approach.
- Presented the results and accuracy of the project through a web application built using Django in Python.

TECHNICAL SKILLS

- **Programming Languages:** Python (NumPy, pandas, Matplotlib, TensorFlow, Scikit-Learn), Java
- **Web Development**: HTML, CSS, JavaScript, Angular, Node.js, TypeScript, Bootstrap
- **Data Engineering**: MySQL, MongoDB, AWS S3
- **Tools and Frameworks**: Git, Confluence, Hadoop, Map Reduce, Amazon Web Service, Docker, Kubernetes