Nirbhay Tandon

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Technical Skills

Languages: Java, Python, JavaScript, SQL
Libraries: TensorFlow, Pandas, Rasa, NumPy, Sckit-Learn, Matplotlib, Jest, Enzyme, ReactJs
Business Skills: Teamwork, Leadership, Mentoring, Client/Business Expectation Management
Additional Skills: Natural Language Processing, Exploratory Data Analysis, Hypothesis Testing, Machine Learning, Scrum, Agile, Continuous Integration/Continuous Development, DevOps, Jenkins, Elastic Search

Experience

Sr. Software Engineering Associate Jan. 2021 – Present
J. P. Morgan Chase & Co. *Glasgow, United Kingdom*

- Currently designing a personalization & recommendation platform for JPMM clients using user metrics
- Led various negotiations between global stakeholders that resulted in delivering flagship products before the deadline
- Designed various components like Bulk-Delete, Quick Search etc. for a low-latency client subscription portal using ReactJs, Apollo, GraphQL & ElasticSearch
- Designed spring-boot 2 based data migration service for migrating RIXML based subscriptions to JSON format for over 6 million subscriptions under 1 hour
- Created weekly coverage reporting service to generate a report on active client data using spring-boot 2, springbatch, sybase
- Architected various Micro-services & simplified ETL pipeline for internal & external clients
- Completed Leadership Excellence programmes within J.P. Morgan for future Team Leads
- Lead a 7 member graduate developer team for a social good project for 10 months

Software Engineering Associate Jan. 2019 – Dec. 2020
J. P. Morgan Chase & Co. *Glasgow, United Kingdom*

- Developed a full-stack web application using React, MaterialUI, Java and GraphQl for external ans well as internal clients to read, share, manage and interact with Research published by JP Morgan Analysts
- Introduced the team to Jenkins & BitBucket based CI/CD SDLC, Scrum methodologies & Kanban
- Successfully migrated legacy applications over to the company proprietary CI/CD tool & enabled adoption for 16 other applications

Technology Analyst Aug. 2016 – Jan. 2019
J. P. Morgan Chase & Co. *Glasgow, United Kingdom*

- Complete SDLC for a ReactJS & Java based web application that replaced a legacy application
- Developed a standalone Spring Boot application for reporting client positions for one of the largest Prime Brokerage clients for JP Morgan
- Worked as *Client-Lead* in a 13 member team. We used Angular & Microsoft Azure to build and deploy a highly scalable web applications for one of our member charities
- Contributed towards improving the overall test coverage for Spring based web application and brought it up to 96% for unit test coverage using JUnit. I also worked on Selenium test cases for fully automated UI testing

Systems Programmer Dec. 2015 – Mar. 2016
Vox Sciences *London, United Kingdom*

- I was responsible for managing the existing application. I also developed the new deep-learning based speech recognition using C++

Education

Liverpool John Moore's University Dec. 2019 – Jul. 2021
Master of Science in Data Science *Grade: Distinction*

King's College London Aug. 2014 – Apr. 2016
Master of Science in Robotics

J.S.S. Academy of Technical Education Aug. 2010 – Jun. 2014
Bachelor of Technology in Information Technology

Theses & Personal Projects

Transformer Architecture for QnA | Master's Thesis | *Python, NumPy, SciPy* | Github Dec. 2020 – Aug. 2021

- Proposed & implemented improvements to the existing Transformer Architecture by using Answer-Pointer layers
- Benchmarked against existing state-of-the-art architectures like BERT, RoBERTa, DistilBert & AlBERT to show performance
- Ran experiments around SQuAD 2.0 dataset and achieved F1 score of 0.74

Question Answering System Using BERT | Capstone Project | *Python, NumPy, SciPy* | Github Dec. 2020

- Question Answering System using DistilBERT architecture & SQuAD 2.0 Dataset
- Training loss dropped from 12.0271 to 1.8473 in the final epoch
- The validation loss dropped from 2.0035 to 0.0196
- The fine-tuned model scored an F1 score of 0.87, after 20 epoch

Deep Learning for Speech Recognition | Master's Thesis | *Python, NumPy, SciPy* May. 2015 – Dec. 2015

- Developed a Speech Recognition system using Long Short-Term Memory architecture of recurrent neural networks
- The project achieved 99.93% accuracy on a 40-memory cell network

Viterbi Part Of Speech Tagger | *Python, NumPy, SciPy, NLTK* | Github Oct. 2020

- Implemented vanilla Viterbi Part of Speech tagger & assessed its accuracy(75%)
- Modified Viterbi algorithm using transition probability and emission probability
- Tested the developed models on sample data and achieved an 22.81% higher accuracy with a modified Viterbi Algorithm(92.28%)
- Correctly identified and tagged words missed by the vanilla Viterbi tagger

Lead Score Case Study | *Python, NumPy, SciPy* | Github Jun. 2020

- Performed extensive Exploratory Data Analysis
- Developed various Logistic Regression models. The optimal model had 80% Accuracy, Precision & Recall
- Generated a 'Lead Score' value. Higher the lead score, higher the chances of conversion for the company

Telecom Churn Case Study | *Python, NumPy, SciPy, EDA* | Github Aug. 2020

- Performed extensive Exploratory Data Analysis, worked with derived columns & data inference techniques
- Identified key factors that cause a customer to churn
- Developed multiple models using ADABoost, XGBoost, Random Forest & Logistic Regression with PCA. The best model was a PCA & XGBoost Classifier after Hyper-parameter tuning that achieved 80% sensitivity & 90% recall
- Proposed business strategies & improvement

Help International - Poverty Analysis | *Python, NumPy, SciPy* | Github May. 2020

- Implemented extensive Exploratory Data Analysis
- Implemented Silhouette & Elbow analysis to decide cluster sizes
- Used K-Means clustering with Hierarchical Clustering techniques to determine which countries need the most assistance
- Identified key features for the NGO to focus on & top 5 countries to target immediately