Amit Pratap

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Professional Summary

Experienced Software Development and Machine Learning Engineer with 2.4 years of experience in developing scalable solutions, creating end-to-end machine learning pipelines, and deploying applications using AWS and Docker. Proficient in Python, data engineering, and creating interactive dashboards using Streamlit. Adept at applying deep learning, NLP techniques, and data analysis to solve complex problems.

Technical Skills

- **Programming**: Python, MATLAB, NoSQL, Node.js
- **Frameworks**: TensorFlow, Keras, Flask, Django, Airflow, Snowflake
- **Cloud Services**: AWS
- **Data Tools**: Pandas, NumPy, SQL, Oracle Database
- **Visualization**: Seaborn, Matplotlib, Streamlit
- **Tools**: Docker, TFX, Kaggle, GitHub, Linux CLI
- **Machine Learning**: Multi-output regression, NLP, AutoML, PCA, XGBoost, Random Forest, Artificial Intelligence

Work Experience

MResult Services Private Limited   Feb 2023 - Jun 2024
Software Development Engineer   *Bangalore*
- Designed and deployed Data ETL pipelines using AWS Glue and Sagemaker, integrating with Prefect workflows.
- Developed Streamlit-based UI dashboards to retrieve and validate data interactively for clients.
- Leveraged AWS services (SQS, SNS, Fargate, ECS, CloudWatch) and implemented best practices for application deployment.

Detect Technologies Private Limited   Jan 2022 - Dec 2022
Machine Learning Engineer   *Chennai*
- Built multi-output regression models using Artificial Neural Networks for industrial clients.
- Developed end-to-end pipelines with TensorFlow Extended (TFX) for automated model training and optimization.
- Generated synthetic time-series data with TimeGAN and created web applications using Streamlit and Appsmith.
- Containerized applications using Docker for scalable deployment.

CRISIL Limited   Jun 2019 - Aug 2019
Research Analyst Intern   *Mumbai*
- Automated financial report generation using convolutional autoencoders and Natural Language Generation (NLG).
- Applied machine learning techniques to style reports in specified formats efficiently.

Fast.next   May 2018 - Jul 2018
Machine Learning Intern
- Predicted restaurant prices for Zomato using location, cuisine, and other features, applying clustering techniques like DBSCAN.
- Matched job descriptions with suitable companies using NLP and clustering methods.

Education

Indian Institute of Technology Madras   2013 - 2021
BS-MS, Biological Sciences

Key Projects

Attention Model Project
- Developed a Deep Q-Learning-based algorithm for traffic sign detection and autonomous driving instructions.
- Compared variational autoencoders and convolutional autoencoders for reconstruction efficiency on MNIST datasets.

Protein Sequence Optimization
- Created an algorithm to predict optimized protein sequences using word embeddings and convolutional neural networks.
- Trained models on Kaggle Jupyter Notebook for predicting mutation impacts on biochemical reactions.

Defence Innovation Challenge (Shaastra 2020)
- Built a speech-to-text model mapping MFCC features to word embeddings using RNNs.
- Designed a proof of concept for multi-language audio signal translation, leading a three-member team to the finals.

Amex Analysis
- Reduced independent variables from 53 to 13 using PCA and correlation analysis to identify credit card defaulters.

Achievements

- **JEE advanced**: Secured AIR 6966 in JEE Advanced among 1.4 million competitors.
- **GATE 2018**: Achieved AIR 190 in GATE Biotechnology.