ISHAN MODI

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SUMMARY

- **Skills**: Deep Learning, Natural Language Processing, Object Detection, Generative-AI, Large Language Models Meta-Learning, Model Orchestration and Optimization.

- **Tools and Technologies**: Python, Pytorch, MLFlow, FastAPI, Google Cloud Platform, Kubernetes, Dagster, Amazon Web Services, PostgreSQL, Docker, Poetry, HuggingFace.

EDUCATION

B.Tech Computer Engineering – Pandit Deendayal Energy University, 2021
GPA – 9.58 (Top 1% of class)

PROFESSIONAL EXPERIENCE

Machine Learning Engineer II
RAFT Remote, UK
Sept 2023 – Current

- Pioneered the company's internal tool, RaftML, to centralize all data sources, facilitate the creation and storage of balanced datasets, and enable model performance evaluation across different versions. This project reduced engineering time by **approximately 20%**.
- Developed a format-agnostic creditor mapping system for invoices, utilizing a layout-based linear transformer foundation model and a convolutional neural network for downstream creditor mapping. This **improved accuracy by 17%**.
- Integrated instruction fine-tuned Llama-7B for efficient data annotation. Leveraged BigQuery for data management and Dagster for workflow automation, **increasing annotation speed by 15%** and achieving complete automation, thus eliminating the need for engineering time.

Machine Learning Engineer I
GLIB Ahmedabad, Gujarat
June 2021 – Aug 2023

- Contributed to "Autosift," the company's primary document processor. Led the technical team in restructuring and optimizing the application, resulting in a **tenfold increase in processing volume**.
- Experienced engineer skilled in optimizing software systems for peak efficiency. Led the transition from microservices to a monolithic architecture and migrated services from Google Cloud to Amazon Cloud.
- Pioneered a deep learning approach focused on layout transformers for keyword extraction and object detection for tabular data. Created model training infrastructure using Sagemaker, Lambda, and MLflow, and developed a robust inference pipeline, **achieving a 15% accuracy enhancement**.

PERSONAL PROJECTS

Compact Convolution Transformer github

Vision Transformer for low data: Implemented CCT paper with CBAM attention for better feature extraction. This model is suitable when data is a bottle neck. It was developed to experiment replacing RCNN module from layout transformer for performance and accuracy boost.

CloudTech Web-App github

> **Community Interaction platform:** Industry standard project aimed providing a platform for people in CloudTech community to interact by writing blogs and chat rooms. Used Django as a back-end framework and AWS for Database and Deployment.

Receipt Data Extraction github

> **Transferred Learning from HuggingFace:** Used HuggingFace's pre-trained LayoutLmV2 model to finetune SROIE Dataset. Prepared the entire boilerplate for training any dataset for entity extraction and automate training and inference using AWS.

ADDITIONAL INFORMATION

Co-Founder and ML Researcher
Cloud Tech Vadodara, Gujarat
July 2020 - Current

- Collaborating with AWS user groups and presenting sessions at universities, meetups, and community events. Engaging in discussions with industry experts about project ideas and research topics.
- Managing and orchestrating cloud Tech's digital transformation for extended outreach. Achieved a **5k LinkedIn** and **2k Twitter** following. Established an open-source community for idea sharing and project collaboration. Conducted 40+ seminars, mentoring over 1000 students to date.

Achievements

- Recognized as an AWS Community Builder for Machine Learning due to his contributions in the community.
- Awarded the prestigious merit cum scholarship by the university, for extraordinary academic performance. 50% of the tuition fee was waved off as a part of this scholarship.
- Invited as a speaker to AWS Community Day, Vadodara.