DIVYA NANDLAL SAHETYA

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EDUCATION

University of Southern California, Los Angeles, USA **May 2023**
MS in Electrical and Computer Engineering (Machine Learning and Data Science)
Sri Jayachamarajendra College of Engineering, Mysore, India **May 2019**
Bachelor of Engineering in Electronics and Communication Engineering

WORK EXPERIENCE

Aledade Inc., San Jose, USA | Software Engineer II **Jul 2023 – Present**

- Collaborated with project stakeholders and pharm team to devise innovative solutions to enhance medication adherence.
- Leveraged **Apache Airflow DAGs** to align **ETL** pipeline for efficient med outreach, prioritizing patients with higher **ML** scores.
- Replaced Apache Airflow DAGs with **FASTAPI** endpoints, enabling direct client access and average retrieval to **~10sec.**
- Enhanced the file processing system by leveraging **FASTAPI** over **SFTP**, achieving a **75%** decrease in user processing time.
- Designed a prioritization algorithm utilizing ML scores and other factors, to ensure timely outreach for medication refills.
- Developed **Snowflake** and **DataDog** dashboards to track outreach progress and errors enabling streamlined monitoring.
- Remodeling the ranking architecture using **Kafka** event streams on AWS, enabling real-time distribution of data.
- Migrating the **DAGs** using **Snowflake** tables to event-driven architecture using **AWS Lambda**, reducing database overload.
- Tech Stack: **Python, MySQL, PostgreSQL, Snowflake, Apache Airflow, Kafka, Fast API, State Machines, AWS Lambda**

Semio AI, University of Southern California, Los Angeles, USA | Machine Learning Intern **Jun 2023-Jul 2023**

- Leveraged **Streamlit** to implement a user-friendly interface for image classification using **ResNet** Architecture.
- Developed **CI-CT MLOps** training pipeline with **MLFlow** leveraging **Vertex AI** and **PostgreSQL** to maintain MLFlow entities.
- Implemented **Google Cloud Storage Bucket** as artifact store for files and models, enabling model drift monitoring.
- Tech Stack: **MLFlow, Cloud Run, Docker, GCP VM, GPU**

Siemens Healthineers, Bangalore, India | Software Developer **Jan 2019-Jul 2021**

- Developed HIPAA-compliant patient data encryption tool for secure transfer of **~1M+** live logs to medical business units.
- Improved file processing by leveraging both multithreading and multiprocessing, resulting in a throughput of **10GBPS.**
- Engineered the tool to support various file formats including compressed files, leading to processing of **90%** of file types.
- Tailored Python-Evt and Evtx libraries using multiprocessing, achieving a **2x** acceleration in the log file-to-XML conversion.
- Integrated file transfer and encryption tools using **Java Messaging Service (JMS)**, achieving a turnaround time of **~10sec.**
- Utilized **Power BI** to deliver statistical insights, empowering stakeholders to make data-driven decisions on **250TB** of data.

Tech Stack: **Python, Amazon S3 buckets, Docker, Kubernetes, Gitlab, JIRA**

TECHNICAL SKILLS

- **Programming Languages & Tools:** Python, R, Java, C++, C, MATLAB
- **AI Framework and tools:** SciPy, NumPy, scikit-learn, Matplotlib, Pandas, PyTorch, Keras, Tensorflow, PySpark, Flask, REST API, GraphQL, Shell Scripting, SQL (MySQL, PostgreSQL), NoSQL (MongoDB), Airflow, Tableau, Power BI
- **DevOps:** Kubernetes, Docker, Amazon Web Services (S3, EC2, SageMaker), GCP, Azure, Git, JIRA, Confluence
- **Domain Knowledge:** Machine Learning (Regression & Classification), Computer Vision (CNN, GANs, RNN, LSTM, Transformers, Object Detection - SSD, RCNN, YOLO), NLP (Generative AI - LLM, Langchain), MLOps

PATENTS AND RESEARCH

Semantic Segmentation for Medical Images *Python, PyTorch, OpenAI, Semantic Segmentation*

- Designed a Meta-Learning framework for few-shot multi-organ tumor segmentation using dynamically weighted task subsampling and meta-update rules. Improved accuracy by 4% over state-of-the-art Reptile (**OpenAI**) in **PyTorch**

Speech to Sign Language Translator *(IN Patent 201841039995, IJRASET)* *Python, Machine Learning*

- Engineered an Automatic Speech Recognition to Sign Language system using CNN with LPC features.

Cleft Speech Trainer *(IN Patent no. 202041045850)* *MATLAB, Python, Machine Learning*

- Devised an Automatic Speech Recognition system trained with MFCC features of speech samples for assisting partially speech disordered individuals to improve speech with interactive learning experience.

Bias field correction in 3D MRIs using convolutional autoencoders *Python, Auto-encoders, Keras*

- Implemented convolutional auto-encoders to de-noise human and mouse brain MRI images in **Keras**