SAI AKHIL TEKURI

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EDUCATION

New York University, Tandon School of Engineering, Brooklyn, New York 09/2023 - Present
Master of Science, Computer Science and Engineering, GPA: 3.945

Indian Institute of Technology Bombay, Mumbai, India 08/2018 - 05/2022
Bachelor of Technology with Honors, Computer Science and Engineering

SKILLS

- C++ | Python | Java | Scala | JavaScript | SQL | HTML | CSS | Node | React | PHP | PostgreSQL | MongoDB | Streamlit
- PyTorch | TensorFlow | Scikit-learn | PySpark | Kafka | Hadoop | Tableau | OpenCV | ETL | Pandas | Jenkins | Docker
- AWS Microservices | Backend Development | Git | Github | Jira | Data warehouse | Android Studio | Hugging Face

EXPERIENCE

Machine Learning Specialist | *AI for Scientific Research, New York* 01/2024 - 05/2024
- Researched the dynamics of domain walls over time in anti-ferromagnetic magnets using **Python**, **PyTorch**, **OpenCV**
- Developed **supervised CNN model** for precise segmentation of domain walls in each video frame with **95%** accuracy
- Performed **time-series analyses** on the evolution of curvature values of domain walls, **identifying critical patterns**

Computer Vision Recruit | *NYU RoboMaster Team UltraViolet* 09/2023 - 12/2023
- Implemented traditional object detection model by extracting **SIFT** features in images and **nearest neighbor** mapping
- Reduced the **inference time** by **50%** compared to the pre-trained **YOLOv5** model with **80%** bounding box accuracy

Software Development Engineer | *Adobe Inc., Bangalore, India* 06/2022 - 07/2023
- Implemented **AWS-based** data ingestion by integrating 4 sources using the **ETL process** to build a **data warehouse**
- Revamped internal tools using **Scala**, **Docker**, and **Jenkins**, resulting in a **10% reduction** in **data processing time**
- Accomplished **20% reduction** in overall **data ingestion time** by **effective data transformation** and storage formats
- Conducted in-depth analysis of **data marts and data vaults**, extracted **business insights**, and reduced cost by **10%**

Product Intern | *Adobe Inc., Bangalore, India* 05/2021 - 07/2021
- Integrated a comprehensive **testing framework** for **networking libraries** across Mac, iOS, and Windows32 in **C++**
- Programmed **16 fault injection tests** simulating **network delay, request timeouts, and network fluctuation**

Research and Development Intern | *GreatFour Systems Pvt. Ltd., Hyderabad, India* 12/2019 - 01/2020
- Created software using **OpenCV** template matching algorithm for braille script detection, achieved **80%** accuracy
- Automated braille script decoding in **Python** by algorithmically isolating braille characters and translating them

PROJECTS

Sidewalk Segmentation | *Artificial Intelligence* 02/2024 - 05/2024
- Fine-tuned the **Segment Anything model** from **MetaAI** to segment sidewalks from 200k geo-spacial satellite images
- Achieved a **Mean Dice Loss** of **0.65** and Improved segmentation accuracy by manual annotations to merge sidewalks

Stable diffusion for Pixar images | *Deep Learning* 02/2024 - 05/2024
- Built a CNN-based autoencoder to reduce the input dimensions to **25%**, enhancing diffusion model training efficiency
- Designed a **UNetDiffusion** architecture to model the Gaussian noise added to the encodings, achieving loss of **0.066**

Predictive Modeling for Solar Energy Production in Europe | *Big Data* 02/2024 - 05/2024
- Trained a **Gradient Boosting Regressor** using **PySpark MLlib** to predict solar energy, attained a **RMSE** of **0.236**
- Engineered real-time solar data streaming with Kafka for solar energy forecasting, visualized using Tableau dashboard

Ethereum Fraud Detection | *Machine Learning* 09/2023 - 12/2023
- Executed **pre-processing** and experimented with **Decision Trees, and AdaBoostClassifier** models using **Scikit-learn**
- Trained **Neural Network** model in **PyTorch** to build an Ethereum transaction classifier with a high **F1 Score** of **0.96**

F1 Race Prediction | *Foundation of Data Science* 09/2023 - 12/2023
- Implemented data cleaning, reduction, statistical analysis, feature selection, to extract pertinent features from raw data
- Leveraged **ensemble methods** to deploy a **Decision Tree Regressor** to forecast race points resulting in **72%** accuracy