SRIKAR MADARAPU

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📍 Sunnyvale, California

SUMMARY

Results-driven Data Scientist and AI Engineer with extensive experience in computer vision, machine learning, and data analytics. Demonstrated expertise in implementing semantic image search, medical image classification, and real-time computer vision systems. Skilled in developing end-to-end ML pipelines, optimizing model performance, and deploying scalable solutions. Proficient in MLOps, cloud technologies (AWS, Oracle), and deep learning frameworks. Strong track record of reducing training times, improving model accuracy, implementing ETL and efficient data processing pipelines across academic research and industry projects.

EXPERIENCE

08/2023 - 11/2024

Chicago, United States

AI & Computer Vision Research Assistant
MedIX Lab DePaul University

- Implemented an advanced **semantic image search** pipeline, training OpenAI CLIP architecture from scratch and optimizing FAISS vector database for sub-second retrieval | **Link**
- Developed a medical CT **image multi-classification system** for lung cancer, fine-tuning state-of-the-art neural networks to achieve 8% improvement in diagnostic accuracy.
- Reduced model training time by 75% through **MLflow** experimentation tracking, hyperparameter optimization, and efficient pipeline design.
- Conducted comparative analysis of **Vision Transformers** versus CNNs for medical image classification, identifying specific **architectures** that excel with limited medical datasets.
- Implemented a parameterized CNN model for image color enhancement based on published research, achieving 89% similarity to target image quality metrics.

04/2024 - 06/2024

Chicago, United States

Graduate Teaching Assistant
DePaul University

- Provided academic support to 60+ students, simplifying complex concepts and assisted with coursework/projects related to data science, machine learning and image processing.

09/2019 - 12/2022

Bangalore, India

AI & Data Analytics Founder – Visual Media
SRP

- Established and grew a **startup** in visual media production.
- Successfully completed 20+ projects with 6+ partnered companies and traveled across India.
- Cultivated strong relationships with agencies, vendors, freelancers, and creative teams.
- Developed **financial dashboards** in **Tableau** to track revenue, expenses, and project performance.
- Leveraged **CVAT** for annotating image/video **datasets**, automated data extraction via API, and implemented an **ETL pipeline** to transform annotations for seamless ML integration.
- Developed aerial and 360° image and video **Data Warehouses** for AI-driven projects.
- Led digital marketing initiatives and utilized Google Analytics, Heat Maps, and SQL to analyze customer behavior, driving a **20% increase in conversions**.
- Conducted **A/B testing** and analytics, optimizing **SEO and digital ad performance**.

05/2019 - 08/2019

Bangalore, India

Video Analytics | Machine Learning Engineer
Origa Labs

- Designed real-time motion detection system for **human activity monitoring,** enhancing machinery safety alerts by 35%.
- Engineered a multi-**object detection** and tracking system for industrial safety, integrating Kalman filters and Deep SORT algorithms to maintain object identity through occlusions.
- Optimized deep learning inference with **Open VINO**, achieving 3x speed improvement on **edge devices** through quantization and pruning.
- Developed containerized deployment pipeline with Docker, creating reproducible environments for vision system testing and deployment.

05/2018 - 09/2018

Bangalore, India

Computer Vision Engineer
Inferigence Quotient LLP

- Conducted experiments on various open source **SLAM** systems using **camera** and **IMU** data.
- Identified and improved localization challenges for indoor environments, boosting mapping accuracy by 5%.
- Calibrated cameras to ensure accurate localization and **3D** mapping in indoor.

07/2017 - 12/2017

Bangalore, India

Research Intern
Defence Research and Development Organisation CAIR

- Implemented CNN-based depth prediction from **monocular images** based on research paper and achieved 78% accuracy.
- Integrated depth prediction model with SLAM system for improving real-time robotic navigation.

EDUCATION

01/2023 - 11/2024

Chicago, United States

Master's in Data Science
DePaul University

GPA **3.5** / **4.0**

- Data Analysis, Vision Language Models (VLM), Natural Language Processing (NLP), Big Data, Deep Learning, Computer Vision

07/2014 - 05/2018

Rajasthan, India

Bachelor's in Computer Science
NIIT University

GPA **3.3** / **4.0**

- Algorithms, Statistics, Image Processing

PROJECTS

Predicting Credit Card Defaults Using Machine Learning

- Implemented data processing pipeline to efficiently handle **5.9M rows** of financial data. **Link**
- Leveraged AWS services (S3, EMR, Glue, Athena, Sagemaker) for scalable data processing.
- Significantly reduced process time by 65%, enabling near real-time risk management to minimize potential losses.

Text Data Extraction Process for Business Requests (Invoice, POS)

- Automated the text extraction pipeline from images using **OCR** and integrated it with **Snowflake**, reducing manual effort and processing time to under 5 minutes.

Classifying Product Reviews

- Achieved 95% accuracy in sentiment classification using advanced NLP techniques.
- Implemented tokenization, stop words removal, and lemmatization for text preprocessing, coupled with TF-IDF feature extraction for optimal model performance.

SKILLS

Programming: Python, R, SQL, C++, Java, SAS, HTML, CSS, JS

Computer Vision: OpenCV, ROS, Image Classification, Object Detection & Tracking, Semantic Segmentation, SLAM, CNNs, Vision Transformers, ResNet, YOLO, SAM, VAE, GAN

Machine Learning & AI: TensorFlow, Keras, PyTorch, Scikit-Learn, MLflow, Docker, NLP, Kubernetes, CI/CD pipelines, W&B, LangChain, LLMs, RAG, Pandas, NumPy, Spacy, ONNX, Flyte, Hyperparameter Tuning, Feature Engineering, A/B Testing, Pattern Recognition

Data Science & Analytics: XGBoost, Random Forest, SVM, PCA, Regression, Tokenization, Sentiment Analysis, Tableau, Power BI, QuickSight, Google Analytics, Heat Maps, Data Lake, Warehousing

Cloud & Data Infrastructure: AWS (S3, EMR, Glue, Athena, Lambda, SageMaker, Kinesis, DynamoDB, Redshift, EC2, QuickSight, Bedrock), Oracle, Azure, Snowflake, Airflow, Databricks, Apache Spark, Pinecone, dbt, Kafka, flink, Hadoop, Hive, Git, Jax, NoSQL

CERTIFICATION

Oracle AI Vector Search (Ongoing)

Oracle University, 2025

Agentic AI Architectures

LinkedIn Learning, 2025

AWS Certified AI Practitioner

Amazon Web Services Training and Certification, 2024

Oracle Cloud Generative AI Professional

Oracle University, 2024

Palantir Foundry & AIP

Palantir Technologies, 2024