

SRIKAR MADARAPU

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SUMMARY

Machine Learning and Computer Vision Engineer with expertise in designing and deploying AI solutions. Proficient in developing scalable models, optimizing vision pipelines, and automating large-scale systems using PyTorch, TensorFlow, and AWS. Experienced in leading cross-functional teams and delivering business-driven AI innovations.

SKILLS

Languages: Python, C++, R, SQL, PySpark, SAS, HTML, CSS, Java Script

AI/ML Areas: Generative AI, Multimodal LLM, Machine Learning, Computer Vision, Deep Learning, Image/Video Classification, Detection, Segmentation, NLP, OCR, Transfer Learning, Data Annotation, ETL Pipelines.

Tools & Frameworks: PyTorch, TensorFlow, Spark, OpenCV, ROS, NumPy, Pandas, ONNX, Gradio, Jupyter, Streamlit, SHAP, HuggingFace, MLFlow, Weights & Biases, Airflow, Git, CI/CD, Docker, Kubernetes, AWS, Oracle Cloud, Hadoop

EDUCATION

Master's in Data Science at **DePaul University** | Chicago, IL | GPA: 3.46 Jan 2023 - Nov 2024

Bachelor's in Computer Science at **NIIT University** | India | GPA: 3.35 Jul 2014 - May 2018

PROFESSIONAL EXPERIENCE

Machine Learning Research Assistant

Chicago, IL

MedIX Lab DePaul University

Aug 2023 – Nov 2024

- » **Sematic image search engine** | [Link](#) : Developed using OpenAI CLIP architecture and FAISS vector database.
- » **Multi-class lung cancer classification:** Spearheading research using LIDC Dataset (CT images). Fine-tuned state-of-the-art neural networks model using **data augmentation** to achieve 8% improvement. Implemented efficient experimentation tracking through **MLflow** and hyperparameter tuning using **Optuna**.
- » Conducted in-depth case study comparing **Vision Transformers** and **CNNs** for medical image classification.
- » Developed disc **detection** and classification, a two-stage **ETL** pipeline for Spine Degenerative Classification.
- » Currently working on developing **multimodal LLM** assistant for entity extraction and understanding.

Graduate Teaching Assistant

Chicago, IL

DePaul University

Apr 2024 - Jun 2024

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

Co-Founder

Bangalore, KA

Srikar Rao Photography

Sep 2019 - Dec 2022

- » Established and grew a startup in visual media production, generating ₹4.2M revenue from 20+ projects with 6+ partner companies.
- » Built aerial and 360° image and video datasets for AI-driven projects, leveraging CVAT for data annotation.
- » Maintained excellent relationships with agencies, vendors, freelancers and creative teams.
- » Led digital marketing campaigns using SEO, Google Ads, and social media to drive business growth.
- » Analyzed user behavior through Hotjar heatmaps, session recordings, and surveys for data-driven website optimization.

Machine Learning Intern

Bangalore, KA

Origa Labs

May 2019 - Jul 2019

- » Developed and deployed a proprietary system for **real-time multi-object detection** and tracking in video streams.
- » Optimized model inference speed by 3x through quantization for **edge device** deployment.
- » Implemented motion detection for human activity-based ROI, enhancing work analysis and safety alerts.
- » Created containerized deployment pipeline using **Docker** with robust CI/CD integration.

Computer Vision Intern

Bangalore, KA

Inferigence Quotient LLP

May 2018 - Sep 2018

- » Conducted experiments on various SLAM systems using camera and IMU sensor data.
- » Identified and resolved localization challenges for indoor environments, boosting mapping accuracy by 5%.
- » Calibrated cameras to ensure accurate localization and 3D mapping.
- » Utilized multi-threading to optimize performance in real-time.

Research Intern

Bangalore, KA

Defense Research & Development Organization

Jul 2017 - Dec 2017

- » Contributed to the "Unsupervised Depth Prediction from Single Monocular Image and Simultaneous Localization and Mapping" project.
- » Developed an CNN ResNet model to predict depth from single image, achieved 78% accuracy. Integrated into SLAM system and successfully deployed on a robotic platform.

PROJECTS

Predicting Credit Card Defaults Using Machine Learning | Financial Data | [Links](#)

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

Parameterized Image Color Enhancement | Supervised Learning

- » Developed a CNN model for image color enhancement, achieving 89% similarity to target outputs.
- » Created and labeled a custom dataset of 5,000 images with paired training data for model training.

Image Authentication Based on Watermarking Approach | Generative AI Content

- » Developed and implemented a watermarking algorithm to embed unique identifiers in images, ensuring authenticity while preserving image quality.

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.

Biomedical Voice Analysis for Parkinson's Progression

- » Built predictive regression models achieving RMSE of 0.15% and MAE of 0.87%.
- » Conducted feature engineering and EDA to improve data quality and model accuracy.

Developed an Automated Data Extraction Process for Business Requests

- » Utilized UiPath Studio to design and implement a robotic process automation (RPA) workflow.
- » Automated the extraction of text from images using OCR and store into Excel for further analysis.
- » Significantly reduced manual effort and processing time to <5 mins.

CERTIFICATIONS

[AWS Certified AI Practitioner](#)

[Oracle Cloud Generative AI Professional](#)

[Prompt Engineering for Vision Models](#)

[Fine tuning Large Language Models](#)

[Advanced AI: Transformers for Computer Vision](#)

[How Diffusion Models Work](#)

[Transfer Learning for Images Using PyTorch](#)

[Image Super Resolution Using Auto encoders](#)

[UiPath RPA Developer Advanced](#)