Anekha Sokhal

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PROFESSIONAL SUMMARY

AI & Computer Vision Engineer with a strong foundation in deep learning, 3D reconstruction, and ML pipelines. Former JP Morgan trader and current Fulbright Scholar passionate about building scalable, real-world AI systems. Led impactful projects with NASA, Stability AI, and Rice, advancing autonomous detection and reconstruction systems.

EDUCATION

Rice University, Houston, TX — May 2025 (expected)
Professional Master of Data Science - Machine Learning & Computer Vision Specialization
Honors: Fulbright Elsevier Data Analytics Award (2023) | IBM AI Fellowship Nominee (2024) | Women in AI NA Finalist (2025)
University of Warwick, Coventry, UK
Bachelor of Science with Honours in Mathematics, Operational Research, Statistics, Economics

SKILLS & CERTIFICATIONS

Languages & Libraries: Python, PyTorch, OpenCV, scikit-learn
Domains: Deep Learning, Computer Vision, 3D Reconstruction (NeRF, Gaussian Splatting, COLMAP)
Data Science: ETL, Data Wrangling, Statistics, Experimental Design
Cloud & Big Data: AWS, Modal, SQL, Spark, Hadoop
Certifications: Le Wagon Data Science Bootcamp (2023)

RELEVANT AI AND ML EXPERIENCE

NASA AI/ML Engineer, Rice University, Houston, Texas — Jan 2025 – Present
- Developed a deep learning-based crater detection pipeline for spacecraft localization, using Python, OpenCV and PyTorch.
- Improved a mask generation system with elliptical annotations and refined masks via Label Studio to boost training quality.
- Fine-tuned YOLOv10 and Ellipse R-CNN on crater datasets using tiling, augmentation, and learning rate scheduling.
- Delivered mAP/IoU evaluations and reports to NASA collaborators, optimizing models for CPU-constrained deployment.

Stability AI Computer Vision Researcher, Rice University, Houston, Texas — Sep 2024 – Present
- Collaborate with Stability AI's 3D Reconstruction Lab on dataset design, benchmarking, and evaluation for NeurIPS and ICCV.
- Built real and synthetic 3D datasets to evaluate generalization of SOTA monocular and multi-view reconstruction models.
- Automated large-scale 3D asset scraping and dataset structuring, enabling scalable and reproducible research.
- Analyze model robustness under varying scene conditions and refine evaluation methods to improve reconstruction reliability.

JewelVision, COLMAP-Free Sparse 3D Reconstruction with Gaussian Splatting & MASt3R-SfM — Aug 2024 – Dec 2024
- Built a sparse-view 3D pipeline by integrating Gaussian Splatting and MASt3R for pose estimation and surface refinement.
- Improved reconstruction fidelity via dense pose fusion and iterative SfM refinement, reducing reprojection error by over 60%.
- Achieved high-quality 3D assets from just <20 input images, enabling real-time rendering without photogrammetry tools.

Rice University, Face-Based Personalized Jewelry Recommendation System, Houston, TX — Jan 2024 – May 2024
- Achieved 90%+ accuracy on 5,000-image Kaggle dataset; enhanced user experience through visually tailored outputs.
- Launched a Streamlit app using MTCNN, OpenCV, and a CNN to personalize jewelry suggestions by face shape and skin tone.

Le Wagon Bootcamp, Student Performance Predictor — March 2023
- Built a Gradient Boosting Classifier to predict academic outcomes using socio-economic data; achieved 96% accuracy.
- Deployed a Streamlit dashboard integrating feature engineering, EDA, and model interpretability for educator insights.

PROFESSIONAL EXPERIENCE

JewelVision, Data Scientist • Houston, Texas — Jan 2024 – Present
- Spearheaded AI-driven 3D asset creation and virtual try-ons using multimodal AI (Vision, LLMs, AR/VR).
- Refined transformer tuning and preprocessing pipelines to boost 3D reconstruction fidelity against CAD benchmarks.
- Streamlined model generation from days to hours by orchestrating a cloud-based multi-GPU pipeline on Modal.
- Raised $15K from Rice's Liu Idea Lab; led technical team and pitched to 50+ clients and investors across accelerator events.

ESKA International, Head of Strategy & Data Analytics • United Kingdom — Jul 2021 – Apr 2023
- Drove strategy across Europe & Africa, cutting costs by 17% via cloud migration, workflow reform, and staff training.
- Doubled online engagement QoQ (2K+ followers) through global rebranding, A/B testing, and analytics-led campaigns.
- Partnered across teams to launch e-commerce with virtual try-ons, enhancing UX and increasing online sales.
- Led international sales expansion, closing the year's largest deal and generating 20% of annual revenue.

JP Morgan, Derivatives Trader • London, United Kingdom — Oct 2014 – Jun 2021
- Devised time-series forecasting models for European gas prices by integrating weather, utility, and macro indicators.
- Engineered derivative trades leveraging Greeks, forward curves, and volatility surfaces to scale risk from 0 to $1M VaR weekly.
- Devised and backtested probabilistic models using Monte Carlo/ VaR simulations and statistical inference to optimise risk.
- Streamlined risk reporting with real-time tools, cutting 1 hour/day of manual work and delivering insights to 100+ clients.

MEDIA & SPEAKING

Speaker: Houston AI Club (May 2025), Generative AI & ML in the Enterprise (Feb 2025), **Guest**: Don't Panic Podcast (Feb 2023)

BEYOND WORK

Hiking, skiing, travelling, warwick Jailbreak (Hitchhiked 500+ miles to Cologne in 36 hours without money, leading a team of 3.)