Anekha Sokhal

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PROFESSIONAL SUMMARY

AI/ML Engineer with a track record of applying AI to high-impact problems. A Fulbright Scholar and ex-JP Morgan trader, I've built a career in data—leading AI initiatives with NASA, Stability AI, and Rice across forecasting, detection, and 3D reconstruction.

SKILLS & CERTIFICATIONS

Skills & Tools: Python, PyTorch, OpenCV, scikit-learn, Hugging Face, SQL, Spark, Hadoop, AWS, Modal
Domains: Deep Learning, Large Language Models (LLMs), Computer Vision, 3D Reconstruction (NeRF, Gaussian Splatting)
Certifications: AWS, Modal, SQL, Spark, Hadoop | Le Wagon Data Science Bootcamp (Dec 2022 – Jun 2023)

RELEVANT AI AND ML EXPERIENCE

Stability AI & Rice University   **Houston, Texas**
AI/ML Researcher   *Sep 2024 – Present*
- Collaborate with Stability AI's 3D Reconstruction Lab on dataset design, benchmarking, and evaluation for NeurIPS and ICCV.
- Built and structured real/synthetic 3D datasets to test generalization of SOTA monocular and multi-view reconstruction models.
- Analyzed model robustness and refined evaluation methods for LLM- and vision-based recognition under varied conditions.

NASA   **Houston, Texas**
AI/ML Engineer   *Jan 2025 – May 2025*
- Achieved 93% precision in spacecraft localization via a deep learning pipeline using Python and PyTorch in Rice's D2K Lab.
- Designed and compared YOLO + Ellipse R-CNN vs. YOLO + geometry-based fitting on dual annotated/augmented datasets.
- Fine-tuned each model separately using learning rate scheduling, early stopping, and experiment tracking with W&B.
- Delivered CPU-optimized models (20s/image, <4GB RAM) and presented results at NASA Houston to support deployment.

JewelVision   **Houston, Texas**
Founder, Lead AI Engineer   *Jan 2024 – Dec 2024*
- Selected as 1 of 8 startups for Rice's Liu Idea Lab Summer Venture Studio, a competitive accelerator for student founders.
- Spearheaded development of 3D asset generation and AR virtual try-on tools using multimodal AI (vision, LLMs, AR/VR).
- Raised $18K in funding and drove a cross-functional technical team, delivered live demos to 50+ clients and investors.

PROFESSIONAL EXPERIENCE

ESKA International   **UK**
Head of Strategy & Data Analytics   *Jul 2021 – Apr 2023*
- Drove strategy across Europe & Africa, cutting costs by 17% via cloud migration, workflow reform, and staff training.
- Launched an e-commerce site and doubled online engagement QoQ via rebranding, A/B testing, and analytics-led campaigns.
- Led international sales expansion, closing the year's largest deal and generating 20% of annual revenue.

JP Morgan   **London, UK**
Derivatives Trader   *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.

PROJECTS

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.

Face-Based Personalized Jewelry Recommendation System   *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 personalise jewellery suggestions by face shape and skin tone.

Student Performance Forecaster Model   *Mar 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.

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, UK
Bachelor of Science with Honors in Mathematics, Operational Research, Statistics, Economics

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.)