

# KEDAR GAIKWAD

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## EXPERIENCE

**Research Assistant**, *Exsight.ai* — Phoenix, AZ

Oct 2023 - Present

- Developed a novel **Explainable AI (XAI)** framework for object detection, combining hierarchical object analysis with user-centric design to enhance model transparency and support regulatory compliance
- Improved model performance under adversarial conditions, achieving up to +18% mAP<sub>50-95</sub> and +10.6% F1-score gains over baseline **YOLOv8** in ship and aircraft detection tasks; contributed to securing **Space Force contract**
- Engineered robust **stress testing framework** utilizing **Meta SAM 2** for precise segmentation, enabling targeted adversarial patch and camouflage attacks that identified and addressed key vulnerabilities in mission-critical AI systems

**AI Engineer**, *Stealth Startup* — Milpitas, CA

Feb 2025 - May 2025

- Architected agentic pipeline extracting 5,000+ jobs daily, enriching metadata using LLM's and orchestrating pipelines with Apache Airflow, deployed as cron jobs to fetch latest job data
- Deployed serverless microservices on **GCP Cloud Run** to host user tailored document enhancement scripts, automating code deployment using reliable CI/CD processes reducing deployment times by 70%
- Fine-tuned deepseek-r1:14B, using PEFT technique (**LoRA**) for generating tailored resume and cover letters
- Developed a mock interview generator using GCP Vertex AI, built **MCP servers** for agent company research and TTS voice conversion with SSML, **personalizing dialogue** based on candidate profile and target role

**AI Researcher**, *Raga AI* — Fremont, CA

Jun 2024 - Aug 2024

- Contributed to **RagaAI Catalyst**, enhancing observability features and implementing granular timeline and execution graph insights to aid RAG and agent system debugging, helping the open-source project surpass **15k GitHub stars**
- Collaborated on LLM evaluation framework to rigorously assess model quality across 50+ evaluation metrics and guardrails, establishing crucial quality benchmarks for production RAG applications and improving LLMs response accuracy
- Led end-to-end testing of RAG and **agentic workflows** across multiple LLM providers (OpenAI, Vertex AI, Ollama, Groq), developing optimal prompting strategies and establishing performance benchmarks for production deployments

**Senior Data Scientist** *Raga AI* — Bangalore, IN

Jan 2022 - Aug 2023

- Led implementation of custom **autoencoder** network for drift tracking and outlier detection in **ADAS**, achieving 95% test accuracy which was installed on Ambarella CV22 **edge-AI** platform and featured at **2023 CES** in Las Vegas
- Collaborated cross-functionally to create the RagaAI platform for computer vision **drift detection**, model **A/B testing** using CNNs and **anomaly detection**, directly contributing to secure \$4.7 million in seed funding
- Transformed client's image processing workflow by implementing **CLIP-based semantic search**, reducing image tagging processing time by 70% while maintaining high accuracy and relevance
- Delivered PoCs for automated retail checkout, driver monitoring, and satellite imaging by leveraging synthetic data generation, A/B testing, and outlier detection in collaboration with domain experts.

**Deep Learning Engineer**, *Uncanny Vision* — Bangalore, IN

Jun 2019 - Jul 2021

- Enhanced device simulation environment for improving system-level file I/O processes using multithreading, monitoring system metrics, resulting in a **10x increase** in test output speed and improved memory efficiency
- Integrated major neural network architectures like **ResNet**, **YOLO**, **SR-GAN**, **Mask-RCNN**, **MobileNet**, reducing deployment complexity, improving overall device performance and compatibility for edge-AI platform
- Reduced deep-learning model sizes by 50% and significantly accelerated processing speed on FPGA devices by implementing advanced compiler optimizations such as **layer fusion and sparsity techniques**

## EDUCATION

**MS, Robotics Autonomous Systems (Artificial Intelligence)** | Arizona State University

Aug 2023 - May 2025

**Courses:** Frontiers in GenAI, Operational Deep Learning, ML accelerator design, Robotics I

## SKILLS

<b>Programming</b>	Python, C/C++, Matlab, SQL, Flask, REST APIs, Git, Docker, Linux, GitHub Actions, Jira
<b>ML</b>	PyTorch, TensorFlow, ONNX, TensorRT, Scikit-Learn, Ollama, Langchain, OpenAI API,
<b>Data Science</b>	Pandas, Numpy, Matplotlib, Seaborn, Tensorboard, SciPy, OpenCV, MLOps, GCP, AWS
<b>Computer Vision</b>	UNet, EfficientNet, ResNet, YOLO, VAE, GAN, ViT, Diffusers, Nvidia Jetson