

Devasurya J Menon

Bangalore, India | +91 8951145340 | devasurya05@gmail.com | github.com/devasurya05 | linkedin.com/in/devasurya-memon

SUMMARY

Computer Science undergraduate with hands-on experience building and shipping AI systems across computer vision and LLM integration. Co-authored a research paper accepted at a Springer-IEEE conference benchmarking 7+ ML models for diabetes prediction.

EDUCATION

Jain University, Bangalore B.Tech, Computer Science & Engineering - Sem VI CGPA: 8.7	Bangalore, India 2023 – 2027
Whitefield Global School, Bangalore Senior Secondary (Class XII), CBSE Science 89.6%	Bangalore, India 2023

PROJECTS

Second-Hand Price Intelligence Platform [GitHub] Feb 2026 - Present
Technologies: Python, Playwright, MySQL, Streamlit

- Built a live end-to-end pricing pipeline that scrapes eBay completed listings via Playwright, stores results in MySQL, and serves a Streamlit interface - takes item input and returns a price range with a keyword-matched Condition Intelligence (CI) score.
- Currently in active development: integrating an XGBoost price model trained on 15,000+ listings, HuggingFace zero-shot condition classifier (BART), Azure Computer Vision for image scoring, a SHAP explainability layer, Docker Compose containerization, and GitHub Actions CI/CD.

AutoPrompt v2.0 - Automated Prompt Optimization Framework [GitHub] Feb 2026 - Apr 2026
Technologies: Python 3.13, Groq SDK, AsyncGroq, Llama-3.1-8B, asyncio, Tenacity, Loguru, Pandas

- Designed a meta-LLM pipeline that auto-generates 4 candidate prompt strategies, benchmarks all 4 concurrently against ground-truth labels, and selects the highest-accuracy prompt strategy, delivering a **+13% extraction accuracy** improvement over a static baseline.
- Reduced total processing time by **90%** by orchestrating concurrent API calls via AsyncGroq, asyncio.gather, and Semaphore pacing; enforced native JSON mode at the API level for 100% parseable output with zero parsing failures.
- Implemented Few-Shot RAG to auto-discover optimal training examples and inject them at inference time, boosting Llama-3 structured extraction on a held-out test set with a clean train/test split to prevent data leakage.

Explainable Eye Disease Detection [GitHub | Demo] Apr 2026
Technologies: PyTorch, timm, ResNet18, Swin Transformer, pytorch-grad-cam, Gradio, Hugging Face Spaces

- Trained dual architectures (ResNet18 CNN and Swin-Tiny Transformer) on 4,217 retinal images across 4 disease classes (80/20 split), achieving **91.12% validation accuracy (CNN)** and **94.08% (Swin Transformer)**, compared to a 25% random baseline.
- Built Grad-CAM heatmap generation for both models and implemented clinical alignment logic that maps each disease to its anatomical attention region, flagging cases where the model is right for the wrong reason.
- Deployed the full dual-model inference and explainability interface on Hugging Face Spaces via Gradio, enabling live retinal image uploads with side-by-side prediction, heatmap, and clinical insight output.

SKILLS

- Programming Languages:** Python, Java, JavaScript, HTML, CSS, SQL
- AI & ML:** Scikit-learn, XGBoost, PyTorch, HuggingFace Transformers, SHAP, Grad-CAM, Prompt Engineering, LLM Integration
- Backend & Data:** FastAPI, Flask, MySQL, MongoDB, Pandas, Playwright
- DevOps & Tools:** Docker, GitHub Actions, Git, Azure Computer Vision, Streamlit, Gradio
- CS Fundamentals:** Data Structures & Algorithms, OOP, RESTful API Design

ACHIEVEMENTS

- IEEE Research Publication:** Co-authored a research paper accepted at a Springer-IEEE conference on comparative analysis of ML models for diabetes prediction. Benchmarked 7+ models (Decision Tree, SVM, Random Forest, XGBoost, CatBoost) achieving a peak accuracy of 70.13%.
- Linux System Administration (LFCS Curriculum):** Certified in Linux system administration through the LFCS curriculum, covering process management, storage, and networking fundamentals.
- Japanese Language (JLPT N5):** Independently studying Japanese and reached JLPT N5 proficiency, demonstrating consistent self-directed learning discipline outside of formal academics.