

Richard Abishai

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Professional Summary

I engineer intelligent solutions that bridge advanced AI research and real-world impact—whether driving academic breakthroughs, launching open-source tools, or scaling product-ready AI systems, I consistently deliver transformative results at the intersection of deep tech and creative design.

Work Experience

- AI Intern

Sep 2025 – Oct 2025

ISRO

Remote

 - Led satellite super-resolution pipeline upgrading Sentinel-2 to PlanetScope fidelity (≥ 60 dB PSNR, ≥ 0.98 SSIM, ≤ 0.05 LPIPS, $\leq 2^\circ$ SAM)
 - Built automated data curation for Sentinel-2/PlanetScope pairs with reprojection, co-registration, and spectral QA
 - Engineered hybrid transformer/CNN model with mixed-precision training, beating ESRGAN/SR3/bicubic baselines
 - Shipped CLI inference toolchain for GPU/CPU tiling inference with enhanced imagery export and documentation
- ML Research Intern

Mar 2025 – Oct 2025

Research Bootcamp

IIT Madras

 - Working on "SLMs for medical domain": literature survey, dataset curation, and model baselines; early +4 F1 over naïve
 - Prototyping training/eval pipelines (PyTorch/HF); faster eval via caching; focusing on safety/robustness
 - Drafting a research manuscript with Dr. Sanjan Gupta (Professor, IIT Madras); targeting conference submission
- AI/ML Intern

Jul 2025 — Sep 2025

CAS

Remote

 - Automated grading: rubric parsing, LLM-based scoring, and feedback; MAE within 0.5 vs TA scores
 - Developed LLM assistant with dynamic context switching (+25% accuracy)
 - Integrated AstraDB vector retrieval (~20% query latency)
- Researcher

Jun 2024 — May 2025

Institute of Aeronautical Engineering

Hybrid

 - Comparative study on MNIST of Full Retraining, Naïve Fine-Tuning, SISA, and Adaptive SISA-Distill; best accuracy: 98.70% (Adaptive SISA-Distill)
 - Formalizes methods; 5 plots (loss/accuracy); ablation (Naïve vs Adaptive); survey of 22+ machine-unlearning papers
 - Remote sensing image classification (+40% accuracy). Evaluated 5 ML models for land segmentation
- IoT and Robotics

Dec 2023

IIT Hyderabad

Hyderabad, TS

 - Monitored and maintained a smart baby cradle with IoT sensors, ensuring 95% uptime.
 - Built an Express.js and React.js interface, enhancing user interactivity by 25%.

Projects

- ContentForge - AI-Powered Content Management Platform | [Link](#)

 - Built a comprehensive AI-powered content management platform using React 18, TypeScript, and Tailwind CSS
 - Developed a modern dashboard with real-time KPI tracking, drag-and-drop calendar scheduling, and content library management
 - Designed AI-assisted content generation capabilities to streamline multi-platform content workflow
- Advanced Multi-Agent AI System | [Link](#)

 - Built a multi-agent AI system integrating LangFlow, Streamlit, and RAG for enhanced task handling.
 - Developed a context-aware AI assistant using multiple LLMs to optimize task allocation and problem-solving.
 - Implemented modular AI architecture, improving system scalability and efficiency.
- Fine-Tuned Custom LLM Model | [Link](#)

 - Built and deployed a fine-tuned Llama-based chatbot using Flask, PyTorch, and Hugging Face Transformers.
 - Optimized the model for real-time responses and efficient inference, improving chatbot accuracy.
 - Containerized the application using Docker for seamless deployment.

Education

Institute of Aeronautical Engineering
B.Tech in CSE (AIML)
Expected Graduation: 2026 | CGPA: 8.5

Skills

Programming: Python, C++, Javascript, SQL, Solidity, Rust(Learning)
AI/ML: Scikit-learn, Tensorflow, PyTorch
Deep Learning: NLP, Computer Vision, Finetuning
Tools & Frameworks: Flask, Docker, LangGraph, Langchain, FastAPI, Postman
Web Development: HTML, CSS, Next.js, React.js, Node.js, Express.js
Databases: PostgreSQL, MongoDB, Vector Databases
Cloud & Deployment: AWS, Cloudflare
Software: Git, Anaconda, Jupyter
Technical Expertise: Software Development, Database, Agents, Artificial Intelligence, System Design, Neural Networks, Natural Language Processing

Certifications

AI Product Management 101
- Dr. Marily Nika (2025)
Machine Learning with Python
- MIT (2025)
Introduction to Artificial Intelligence
- Harvard University (2024)
AI and Emerging Technologies
- IIT Hyderabad (2024)

Achievements/Leadership

All India Rank 10 — National AI Olympiad (NAIO) 2025
Top 50 in India — Bharatiya Antariksh Hackathon (ISRO) 2025
Top 100 in India - Google Solutions Challenge 2024
Top 10 in Telangana — JNTU Innovation Hackathon 2024
President — Student Council of IARE 2025
Ex-President — Rhapsody Music Club 2024