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EXPERIENCE

Software Developer

Aug 2026 – Present
Hyderabad, India (On-site)

Cognida.ai

- Work on client-facing computer vision projects covering image segmentation, understanding, and image classification with production latency constraints.
- Automate MLOps workflows for these projects in the areas of evaluation and retraining.
- Improve model accuracy on large image datasets without breaking strict latency budgets.

SDE Intern

Jan 2026 – Jul 2026
Hyderabad, India (On-site)

Cognida.ai

- Completed a two-month training program covering AI systems, backend pipelines, and cloud deployment.
- Part of a four-person team building an internal project management and resource analytics platform.
- Built backend services in Django REST Framework exposing APIs for project, budget, and resource data.
- Contributed to data models and views for budget tracking and performance insights, supporting both top-down (organization to project) and bottom-up (project to organization) analysis.
- Helped design the system architecture for integrating HRMS platforms, SOW document processing, and periodic project manager reviews.

AI Research Intern

May 2025 – Jun 2025
Bengaluru, India (On-site)

Genex Space

- Built TARS, a fully offline multimodal AI agent unifying speech (Vosk, WebRTC, Silero VAD), vision (YOLOv8, BLIP, Haar cascades), and language (Phi-4-mini-instruct) into a local pipeline with no cloud calls or external APIs.
- Implemented LangGraph orchestration with dynamic node routing, custom concurrency management, and fault-tolerant health checks with auto-restarts.
- Optimized large models for CPU-only inference on 16 GB RAM using quantized LLMs, achieving real-time performance without GPU acceleration.
- Built GenexLearn, a Next.js e-learning PWA with course management, admin dashboards, authentication, dark mode, and an AI chat feature through OpenRouter with per-user usage quota tracking.

PROJECTS

RocketGlobe

Dec 2025 – Sep 2026
Desktop App

Tauri, Rust, React, TypeScript, FastAPI, SQLite, CesiumJS

- Built an offline-first desktop app that shows global rocket launches on an interactive 3D globe, using live data from the Launch Library 2 API.
- Designed a data sync pipeline that works within the API's strict rate limits, and bundled a seed database so the app has full launch data on first install, with no internet needed.
- Set up automated testing and CI with GitHub Actions, plus a one-command Windows release pipeline.

Cloud-Integrated Lucky Imaging Pipeline (CLIP)

Mar 2026
Cloud Systems

AWS, Cloud Computing, Distributed Systems, Image Processing

- Designed and deployed the AWS architecture for a cloud-native pipeline that performs real-time distributed Lucky Imaging, where telescopes stream short-exposure frames to the cloud for automated quality selection and stacking.
- Used continuous streaming and edge-based pre-filtering so only high-quality frames are transmitted, reducing bandwidth and latency, and let multiple telescopes share one processing environment for collaborative observations.

AI-Driven Web Application Firewall (WAF)

Apr 2025
ML Security

Python, Random Forest, SHAP

- Built a reverse proxy pipeline that classifies HTTP attacks using a Random Forest model.
- Applied Bayesian hyperparameter optimization and SMOTE for class imbalance, and added SHAP-based feature attribution for transparent security auditing.
- Included an interactive dashboard for monitoring traffic, detected threats, and system performance.

Computational Humor & AI for Memes	Jul 2025 – Dec 2025
<i>Multimodal AI, VLMs, NLP</i>	<i>Image Understanding (Research Project)</i>
- Built a two-stage pipeline combining OCR (PaddleOCR, Tesseract), vision-language models (Qwen, Florence), and captioning (BLIP-2) for semantic meme understanding. - Designed context-aware generation with LLMs (LLaMA-3, GPT-4), with control over humor style, cultural framing, and multilingual adaptation beyond static template methods.	

RESEARCH

Deep Learning Framework for Astronomical Image Deblurring	Dec 2024 – Aug 2026
<i>Vision Transformers, GANs, Computer Vision</i>	<i>Research Project</i>
- Designed a physics-informed two-stage pipeline using a Vision Transformer for localized point spread function (PSF) estimation and DeblurGAN for deconvolution, mitigating atmospheric turbulence in large-scale sky surveys. - Presented at ISRO’s S2-STEP 2025 and the 6th Indian Planetary Science Conference (IPSC 2025) at IIT Roorkee, selected from roughly 400 accepted papers out of 800+ submissions, with an oral presentation (Certificate🏆).	
Sustainable Lunar Habitat Design Utilizing PEMFC and GPHS-RTG	Dec 2023 – Feb 2024
<i>Space Systems</i>	<i>Research Project</i>
- Researched hybrid power systems combining proton-exchange membrane fuel cells with radioisotope thermoelectric generators for long-duration lunar habitation. - Presented at ICPEH 2024🏆 (PRL Ahmedabad) to 200+ researchers.	

OPEN SOURCE

AlbumentationsX🏆	Aug 2026
<i>Computer vision augmentation library</i>	<i>Open Source</i>
- Authored BBoxSubsetSafeRandomCrop (PR #435🏆), a new spatial transform that samples a random subset of bounding boxes and crops around their union. - Supports images, masks, bounding boxes, keypoints, and volumetric data.	

LEADERSHIP

Chairperson	Jan 2025 – Dec 2025
<i>SEDS VIT🏆 (Students for the Exploration and Development of Space)</i>	<i>Vellore, India</i>
- Led a 150+ member technical chapter and served as primary liaison between five faculty boards and SEDS India. - Ran 14 events in one term, including the 3-day StarParty at Gravitas 2025 (350 participants, INR 90,000 revenue). - Led a 20-member delegation to S2-STEP and IPSC 2025 at IIT Roorkee, with all 10 submitted abstracts accepted. - Expanded school outreach through the Anthariksh astronomy workshop programme, reaching 200+ students.	

EDUCATION

B.Tech, Computer Science Engineering	Aug 2022 – Aug 2026
<i>Vellore Institute of Technology🏆</i>	<i>Vellore, India</i>
CGPA: 8.25/10	
Focus areas: Software Engineering, Machine Learning, Deep Learning, Computer Vision	

TECHNICAL SKILLS

ML & Computer Vision: PyTorch, OpenCV, YOLOv8, scikit-learn, Hugging Face Transformers, Vision Transformers, GANs, MLOps	
Languages: Python, TypeScript/JavaScript, C++, Java, SQL	
Backend & Web: Node.js, React, Next.js, Tailwind CSS, Django, Django REST Framework, FastAPI	
Data & Databases: PostgreSQL, MongoDB, SQLite, SQLAlchemy, Alembic	
Cloud & DevOps: AWS, GCP, Docker, Git, CI/CD	