

Anvit Verma

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Education

Bachelor of Technology in Computer Science
Vellore Institute of Technology, Bhopal

Sept 2023 – May 2027

Experience

Research Assistant

Vellore Institute of Technology

Bhopal, IN

Sept 2025 – Present

- Analyzed findings from **80+ peer-reviewed papers** to evaluate the evolution of **neural architectures** in autonomous driving from **Kalman filter** baselines to modern **LSTM** and **GNN** models.
- Determined a **40% reduction** in trajectory prediction error across modern safety-critical systems by validating reported **neural network** benchmarks.
- Appraised **9 foundational ADAS** surveys to identify research gaps and formulate a technical roadmap for **Neuro-Symbolic** and **Bio-Inspired** certifiable **AI** systems.

Teaching Assistant

Official University E-Learning Portal (Vityarthi)

Bhopal, IN

March 2025 – August 2025

- Spearheaded the end-to-end technical development of the university wide **Linux** course (**CSE0002**) for **3,000+ students** in just first semester of the launch.
- Systematized **90 Bash** and **Shell** automation scripts replicating real-world system administration workflows including log analysis and process monitoring.
- Delivered **100%** of technical screen demonstrations capturing real-time execution of advanced **Linux** commands for asynchronous learning at scale.

AI Intern

Jio Platforms Limited (JPL)

Navi Mumbai, IN

May 2025 – June 2025

- Constructed autonomous **AI agents** using **LangChain** and **LLaMA 3**, implementing a **RAG pipeline** over **500+ internal documents** for precise information retrieval.
- Implemented dynamic **SQL generation** enabling structured querying across complex relational databases within the agent workflow.
- Launched a **LangGraph**-based multi-agent system that automated **90%** of complaint routing and reduced operational latency by **20%**.

Publications

Perception Challenges in Autonomous Vehicles, International Journal 2025 Publications -
Volume 1 - Issue 3, Airo International Research Journal ISSN 2320-3714
Ishaan Shrivastava, **Anvit Verma**

Mar 2025

[\[Link\]](#)

Projects

Rondônia Fishbone Harmonizer

[\[Live Demo\]](#) [\[GitHub\]](#)

Python, PyTorch (GANs), GDAL, Sentinel-2

- Engineered an **ETL pipeline** to ingest and process **5.5 TB** of multi-temporal satellite imagery, normalizing cross-sensor inconsistencies.
- Compiled a unified dataset of **1,336 aligned image pairs** enabling consistent long-term analysis of deforestation trends in the Amazon.
- Optimized legacy **30m-resolution** maps into **sharp 10m imagery** using a custom **SR-GAN**, achieving a **0.54 SSIM** score for monitoring.

GitHub Repo Analyst AI

[\[Live Demo\]](#) [\[GitHub\]](#)

LangGraph, LLaMA 3, React (Vite), Framer Motion

- Designed a **LangGraph**-based orchestration layer coordinating specialized **LLaMA 3 agents** for repository navigation and documentation generation.
- Integrated a **three-stage security auditing** pipeline combining **SAST**, dependency analysis, and **RAG**-based code inspection using **ChromaDB**.
- Customized an interactive **Windows XP**-inspired desktop interface in **React** including a custom window manager and deterministic simulation engine.

Skills

Languages: C++, Python, Java, JavaScript, SQL, Bash/Shell

AI & Machine Learning: SR-GANs, LLaMA 3, Multi-Agent Orchestration, RAG Pipelines, Transformers, Computer Vision

Frameworks & Libraries: PyTorch, TensorFlow, LangChain, React, Node.js, Pandas, NumPy, Scikit-learn

Cloud & Tools: AWS (Lambda, S3, DynamoDB, API Gateway, Cognito, CodePipeline), Docker, Git, CI/CD, Postman