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Parishruthi Ganesh

Computer Vision (CS) Ph.D. Student

Computer Science Ph.D. student with a specialised focus in computer vision and machine learning — video understanding, human activity detection, object detection and multi-object tracking. Aiming to contribute to the applied science and robotics industry through research in sensory data interpretation and algorithm development.

Education

Ph.D. in Computer Science and Software Engineering — **Aug 2025 – Present**
Auburn University · Focus: Computer Vision, Video Understanding, Object Detection

Master of Science in Computer Science and Software Engineering — **Aug 2023 – Aug 2025**
Auburn University · GPA 3.82 / 4.00

Bachelor of Engineering in Computer Science — **Aug 2017 – Aug 2021**
Visvesvaraya Technological University

Skills

Languages: Python, SQL, JavaScript, C#, Java, HTML/CSS
Frameworks/Libraries: PyTorch, Pandas, Scikit-learn, Node.js, Matplotlib, ASP.NET
Tools: AWS, Azure, Docker, Linux, Git

Publications

- What Do Interaction Representations Actually Measure? Pre-Event Separability in Weakly-Supervised Violence Detection; **Preprint**; arXiv:2608.27879
- Selecting Open-Weight Language Models for Zero-Shot Intent Classification: A Systematic Evaluation of 41 Models; **Preprint**; arXiv:2607.27421

Research & Machine Learning Experience

Graduate Research & Teaching Assistant, Auburn University — **Jan 2024 – Present**
- **DEMA** — architecting a full-stack engineering data platform on the CIM4DE information model, and exploring how LLMs can classify record quality and answer questions over the data it holds.
- **AUSME** — built a retrieval pipeline over roughly 25,000 research papers that summarises faculty work and exposes it through a conversational interface for finding expertise across 50+ faculty.
- Delivered hands-on **Python and MATLAB** lab sessions to undergraduates, supporting programming proficiency through mentoring and assignment guidance.

Software Developer, Emids Technologies Pvt Ltd — **Dec 2021 – Jul 2023**
- Built the Reports, Accounts, Leads and Contacts modules of an enterprise CRM, including the SQL queries and aggregations behind its reporting views.
- Designed Spring Boot REST services moving customer and sales data between modules, and built the server-side layer with JSP, JSTL and Servlets.

Selected Machine Learning Projects

SplitShield *(Proof of Possible 2026; GitHub; Demo; Video)*
- Finds duplicate images leaking across dataset splits with perceptual hashing and MobileNetV3-Small embeddings, and reports how far accuracy moves once they are removed.

Circular Trade Fraud Detection with Graph Learning *(Research project; GitHub)*
- Detects circular trading rings in invoice data with graph cycle detection, Node2Vec embeddings and DBSCAN.

AstraNova *(Build with Gemini XPRIZE; Demo; Video)*
- An intraday options copilot combining live market data, model-scored signals and broker execution.

Multi-Class Sentiment Analysis with BERT *(Coursework; GitHub)*
- Fine-tuned bert-base-uncased on the SMILE annotation dataset as a study of transformer transfer learning.

Other Projects

Sentinel Memory *(CockroachDB × AWS — Build with Agentic Memory; GitHub; Demo; Video)*
- An incident-response agent whose memory is a transactional database rather than a context window.

LabGuard AI *(All Things Agentic Hackathon; GitHub; Demo; Video)*
- An autonomous research agent that challenges a scientific claim and runs the experiments that could disprove it.

ThinkTrace AI *(SPEED August AI Challenge; GitHub; Demo; Video)*
- Reads each student's written reasoning rather than only the final answer, and groups a class by shared misconception.

Leadership & Service

- Treasurer, The Society for Responsible Artificial Intelligence (December 2024 – Present).