Ganesh Nanduru

ganesh.nanduru@gmail.com | github.com/nanduruganesh | linkedin.com/in/gnanduru

Education

Master of Computer Science, University of Virginia **2025**

- GPA: 4.0/4.0

Bachelor of Science in Computer Science *Highest Distinction*, University of Virginia **2024**

- GPA: 3.9/4.0

Work Experience

Research Assistant, Collaborative Robotics Lab at UVA **2021 - Present**

- Co-developed **Energy-Based Transformers** (arxiv.org/abs/2507.02092) a new approach to LLMs that scales 35% faster and performs up to 29% better than the Llama2 Transformer in terms of model perplexity; under review for NeurIPS 2025.
- Created **BargainingNAO**, the first LLM-powered robotic agent that can listen, observe, speak, and gesture to intelligently negotiate with human participants using a combination of RAG techniques and speech, tone, and face, and posture analysis; under review for Humanoids 2025.
- Engineered the **Refer360** dataset (openreview.net/forum?id=oMkHoJjLXB), a multimodal grounded referring expression dataset that exposes weaknesses in state-of-the-art visual classification models; under review for NeurIPS 2025 Datasets & Benchmarks Track.

Software Engineer Intern, Chevron Corporation **2024**

- Designed and deployed an credit card web application on Power Platform used by over 45,000 employees. Coordinated end-to-end application security with bank stakeholders.

Machine Learning Intern, Noblis, Inc. **2023**

- Secured a $10,000 internal grant by developing a Variational Autoencoder for heart arrhythmia detection (99% test accuracy) and presenting the results to company executives.

Software Engineer Intern, Trillion Technology Solutions **2020 - 2022**

- Engineered and deployed full-stack web app demos for federal contracts, utilizing Go microservices, PostgresSQL database integration, and Jenkins/OpenShift for CI/CD, earning ∼$30,000/contract.

Technical Projects

RAD-Attack **2024**

- Invented a new attack to target weaknesses in the Meta LLaVa and Salesforce BLIP Vision Language Models, causing them to misclassify MNIST digits with a 100% success rate
- Designed an approach to transferring adversarial samples generated on one LLM to exploit another.

PCAP-LM **2024**

- Fine-tuned Llama2 to detect & describe DDoS attacks on network traffic with 99.0% accuracy.
- Reformatted 30GB of packet captures into a custom dataset to represent packet analysis as a natural language task, labelling traffic as benign or malicious.

COVID-19 Map **2021 - 2022**

- Led a team of 9 students to build covid19-map.com, an interactive COVID-tracking world map that accrued 10,000+ visits, by hosting on scalable AWS infrastructure and enhancing Google SEO visibility.
- Engineered Selenium webcrawling scripts and React with Leaflet to visualize historical COVID-19 data across 788 global regions.

Skills

- **Machine Learning**: PyTorch, Tensorflow, JAX, MLX, OpenCV, HuggingFace, Sk-learn, Pandas
- **Full Stack**: React, Angular, Node.js, Django, SpringBoot, Docker, Jenkins, Terraform, Git
- **Programming Languages**: Python, Go, Java, JavaScript, SQL, C, Shell script, Batch script