

Akhil Nampally

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EDUCATION

Georgia Institute of Technology

Atlanta, GA

Bachelor of Science in Computer Science and Mathematics

EXPERIENCE

Data Engineer Intern

May 2026 – Present

Meta

Menlo Park, CA

- Built an LLM label intelligence module with anomaly detection (**KL divergence, z-scores**) to monitor distribution shifts across **30+** ML-generated creator dimensions.
- Designed and deployed an operational intelligence framework (serving **35+** downstream teams), implementing automated DQ checks across all pipelines

Machine Learning Researcher

March 2026 – Present

ViTAL Lab

Atlanta, GA

- Conducting multimodal AI research at the ViTAL Lab on autism-related **audio classification** using dyadic conversation data from the Emory Autism Center.
- Engineered and evaluated machine learning pipelines using **mel spectrograms, openSMILE eGeMAPS, VAD rhythm features, and classical ML/CNN models**.
- Developed scalable Python/PyTorch workflows for **feature extraction, cross-validation, and model evaluation** on clinical audio datasets.

Undergraduate Student Researcher

August 2024 – December 2025

Georgia Institute of Technology

Atlanta, GA

- Designed and implemented a real-time data acquisition system for a capacitive liquid level sensor.
- Developed **predictive models and data visualizations** using Python to analyze sensor data trends.
- Established automated data logging and graph generation tools, **improving calibration time by 75%**.

PROJECTS

LLM-SDQ — Efficient Large Language Models | *PyTorch, Hugging Face, QAT, LoRA, YAML*

- Built switchable-precision **quantization** for GPT-2 with per-layer bit-widths, cutting GPU memory use by 4x.
- Integrated **LoRA** adapters and fine-tuned on SQuAD, achieving a **+16% F1 score** improvement over baseline.
- Developed a YAML-based routing system for runtime model reconfiguration, improving deployment flexibility.

DINO-Toads — Self-Supervised Vision Survey & Pipeline | *PyTorch, DINOv2/v3, Vision Transformers*

- Engineered a **DINOv2/v3** vision pipeline using patch-level features, **PCA, and K-Means clustering** to automate fine-grained image segmentation.
- Built a robust classification framework utilizing **Mahalanobis distance** to handle severe data imbalance across a **30,000+** image biological dataset.
- Co-authored** a research paper on **self-supervised vision transformers** for specimen detection, species clustering, and orientation mapping.

EV-Arb-Tool: Odds Evaluation & Prop Finder | *Python, FastAPI, React.js, Pandas, Node.js, HTML, CSS*

- Developed a full-stack sports betting tool using Python & React.js to automate EV (expected value) calculation and odds analysis, **processing 10,000+ props daily** across sportsbooks and DFS platforms.
- Engineered **backend pipelines and APIs** to aggregate odds, calculate fair probabilities, and surface 100+ high-value betting opportunities.

PhantomShield – Real-Time Deepfake Detection Tool for Video Calls | *Python, PyTorch, Electron, OpenCV*

- Designed and built an AI-powered deepfake detection system for video calls, leveraging **computer vision and deep learning** to enable accurate, real-time detection and response.
- Trained and deployed a custom deep learning model using PyTorch and ResNet18 architecture, achieving **85% accuracy** in detecting deepfake videos.

TECHNICAL SKILLS

Programming Languages: Python, Java, SQL, R, JavaScript, HTML/CSS

Machine Learning & Data Science: PyTorch, Scikit-learn, Pandas, NumPy, Matplotlib, LangChain, TensorRT

Software Development & Tools: Git, Linux, AWS, Google Cloud, Flask, FastAPI, ROS, React, Node.js, Cuda