

# Akhil Nampally

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## EDUCATION

### Georgia Institute of Technology

Bachelor of Science in Computer Science and Mathematics

Atlanta, GA

Expected May 2027

## EXPERIENCE

### Undergraduate Student Researcher – Living Dynamical Systems Lab

Aug 2023 – Present

Georgia Institute of Technology

Atlanta, GA

- Designed and implemented **liquid-level capacitive sensors** to measure nectar for moth feeding studies, enabling high-precision biological experiments.
- Built reusable **double-capacitor setup** with aluminum electrodes; integrated with Arduino + Python scripts for data acquisition and calibration.
- Presented weekly research updates to professors and PhD collaborators, contributing to long-term lab publications.

### Analyst Intern

May 2024 – Aug 2024

Strategy Kiln

Providence, RI (Remote)

- Managed and organized **\$65M in client leads** within CRM pipelines; optimized workflows that increased funnel efficiency by 25%.
- Proposed and deployed **AI-driven CRM + marketing tools** for client acquisition, improving outreach strategies.
- Delivered weekly reports and client-ready presentations to senior leadership.

## PROJECTS

### PhantomShield — Real-Time Deepfake Detection | Python, PyTorch, OpenCV, ResNet18, React

- Developed a system to flag **AI-generated faces and audio** in live Zoom/Teams calls with sub-200ms latency.
- Reduced false positives by tuning thresholds, buffer sizes, and using high-resolution face crops.
- Integrated overlay alerts with a React-based dashboard for user feedback.

### BiasScope — Media Bias Analyzer | React, FastAPI, Sonar API

- Built a hackathon-winning tool that compared news bias in real-time using tone analysis and multi-source citations.
- Leveraged **Sonar Reasoning Pro** for deep reasoning and source attribution across multiple media outlets.

### EV-Arb-Tool — Sports Analytics Platform | Python, FastAPI, React, Pandas, MongoDB

- Processed **10,000+ sports betting props daily** to calculate expected value and identify arbitrage opportunities.
- Designed scalable backend APIs and React dashboards for real-time monitoring and analysis.

### AnyInsight — Data Intelligence Platform | FastAPI, PostgreSQL, React, Docker, AWS

- Built analytics platform for structured/unstructured data ingestion, anomaly detection, and reporting.
- Optimized query response by 60% using database indexing and async pipelines; scaled to 500+ concurrent users.

### LLM-SDQ — Efficient LLMs via Dynamic Quantization | PyTorch, Transformers, LoRA, CUDA

- Implemented per-layer quantization in GPT-2 with PyTorch, **reducing model size 4x while maintaining 95% accuracy** on SQuAD.
- Integrated multi-LoRA adapters with adaptive routing via YAML precision profiles.
- Benchmarked inference performance on HPC GPU clusters using custom QuantLinear/Conv1D wrappers.

### Autonomous Navigation Robot with SLAM | ROS, Gazebo, Python, C++

- Implemented navigation stack with **obstacle avoidance and SLAM-based mapping** in simulated environments.
- Explored reinforcement learning for adaptive multi-goal path planning.

### Pet Mood Detection | TensorFlow, OpenCV

- Trained CNNs on Stanford Dogs dataset to classify pet emotional states with data augmentation for robustness.
- Built preprocessing pipeline for real-time webcam input classification.

## TECHNICAL SKILLS

**Programming Languages:** Python, Java, C++, TypeScript, JavaScript, SQL, Bash

**Frameworks & APIs:** PyTorch, TensorFlow, React, FastAPI, Node.js, Flask, ROS

**Databases & Cloud:** PostgreSQL, MongoDB, AWS, Docker, Kubernetes

**Data Science & Tools:** Pandas, NumPy, scikit-learn, Matplotlib, Airflow, Git, Linux, VSCode Remote-SSH, HPC clusters