Akhil Nampally

US Citizen | 781-619-4370 | anampally3@gatech.edu | linkedin.com/in/akhilnampally | github.com/akhilnam | akhilnam.xyz

EDUCATION

Georgia Institute of Technology — Atlanta, GA
Bachelor of Science in Computer Science and Mathematics — *Expected May 2027*

EXPERIENCE

Undergraduate Student Researcher — August 2024 – Present
Georgia Institute of Technology — *Atlanta, GA*

- Built **real-time data acquisition & calibration pipeline** for capacitive sensors using Python and LabVIEW; automated data logging and visualization, **reducing calibration time by 75%**.
- Developed **signal processing algorithms** for stability analysis with NumPy/SciPy, improving test reliability by 40%; automated reports with Matplotlib for weekly reviews.
- Created technical documentation and demos for research team; built reusable CLI scripts for dataset cleaning, handling 500+ data points per session.
- Collaborated with PhD students to design **sensor arrays for insect feeding studies**, integrating hardware prototypes with data acquisition software.

Analyst Intern — May 2024 – September 2024
Strategy Kiln — *Providence, RI*

- Automated lead generation workflows managing **$65M in client portfolios** with CRM + Python scripts; streamlined funnels and **increased lead conversion by 25%**.
- Built Python/SQL customer segmentation models with pandas + PostgreSQL, improving targeting accuracy by 35% and generating $2M+ in additional revenue.
- Deployed **ETL pipelines** with Apache Airflow; created validation utilities reducing import errors by 60% and ensuring 99.5% data quality.

PROJECTS

Efficient LLMs via Dynamic Quantization | *PyTorch, Transformers, LoRA, CUDA, Python*

- 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; developed logging and metrics visualization using TensorBoard.

PhantomShield — Real-Time Deepfake Detection Tool | *Python, OpenCV, ResNet18, FastAPI, React*

- Built real-time system to detect and flag **AI-generated video/audio** in live Zoom calls with <200ms latency.
- Implemented **ResNet18-based CV pipeline** with face crop upsampling, adaptive thresholds, and spike filtering, cutting false positives by 40%.
- Integrated with virtual camera overlay and React dashboard for user alerts; supported multi-participant monitoring with 90% detection accuracy.

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

- Built full-stack data platform with CSV/JSON/API ingestion and anomaly detection using ML algorithms; serves 1000+ daily queries with real-time dashboards.
- **Optimized query performance by 60%** through database indexing, connection pooling, and async processing; scaled to 500+ concurrent users.

EV-Arb-Tool — Sports Analytics Platform | *Python, FastAPI, React, Pandas, Node.js, MongoDB*

- Built analytics platform processing **10,000+ sports props daily** with expected value and arbitrage calculations; implemented real-time web scraping with Selenium.
- Designed RESTful APIs and React dashboard with audit trails; monitoring with Prometheus/ELK achieving 99.8% reliability.

TECHNICAL SKILLS

Programming Languages: Python, Java, TypeScript, JavaScript, SQL, R, C++, C, Bash, MATLAB, HTML, CSS
Web & APIs: React, Node.js, FastAPI, Flask, Express.js, REST APIs, GraphQL, Next.js, Vue.js
Databases & Cloud: PostgreSQL, MySQL, MongoDB, Redis, AWS (EC2, Lambda, S3), Docker, Kubernetes
Data Science & ML: PyTorch, TensorFlow, scikit-learn, Pandas, NumPy, Matplotlib, Apache Spark, Airflow
Tools & Technologies: Git, Linux, Tableau, Selenium, Jenkins, GitHub Actions, Jira, Apache Kafka