Aditya Reddy Yanamala

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Education

University of Texas at Dallas — Richardson, TX

Bachelor of Science in Computer Science - AES Scholar, Dean's List — *Expected May 2028*

Relevant Coursework: Advanced Data Structures and Algorithms, Intro to ML, Database Systems, Operating Systems

Leadership: ACM Research Lead, AKPsi Mu Rho Tech Cohort Lead, AKPsi VP of Operations

Technical Skills

Languages: Java, Python, C++, JavaScript, TypeScript, SQL, HTML/CSS

Frameworks/Libraries: React.js, Spring Boot, Flask, Node.js, PyTorch, TensorFlow, Apache Spark, Keras, Snowflake

Cloud/Databases: AWS Glue, AWS EMR, Google Cloud Platform, MongoDB, Supabase, Firebase, Heroku

Developer Tools: Git, Docker, n8n, Vercel, Maven, Selenium, Google ADK, Scikit-learn, Matplotlib, CI/CD, MCP

Experience

Software Engineering Intern — Aug 2026 – Dec 2026

IBM - watsonx Orchestrate — *Austin, TX*

- Expanded IBM watsonx Orchestrate to support image inputs while managing multimodal context-window and memory
- Built security validation tools to detect prompt and code injection in image inputs, strengthening multimodal agent security

Software Engineering Intern — June 2026 – Aug 2026

Capital One - Auto Loan Servicing Team — *Dallas, TX*

- Migrating legacy EMR clusters to **AWS Glue** to engineer modern data pipelines, reducing cloud infrastructure costs
- Engineering scalable Spark batch jobs to process **7M+** records per run to seamlessly deliver structured data to 20+ teams
- Deploying the pipeline to production after back-testing code against **2** years of historical data to ensure **100%** data integrity

Research Lead — August 2025 – November 2025

Association for Computing Machinery — *Richardson, TX*

- Led a 5-person team developing a **Hierarchical Multiscale RNN** to decode attempted speech from **10500+** neural trials
- Designed an HM-RNN with dynamic boundary detection using a Straight-Through Estimator to learn hierarchical structure
- Engineered a novel HM-RNN architecture that improved the SOTA RNN, increasing word accuracy from **81.2%** to **85.2%**

ML/AI Engineering Intern — May 2025 – Aug 2025

Alura — *Frisco, TX*

- Created content generation/interaction tools and automated posting to social media platforms, saving **6+** hours per week
- Built and deployed an autonomous agent architecture integrated with **ADK** to automate marketing across **30+** accounts

Research Intern — September 2024 – November 2024

Association for Computing Machinery — *Richardson, TX*

- Collaborated in a 5-member research team to develop a **CNN-GNN** hybrid model for neurological disorder management
- Researched CNNs, **LSTMs**, **GNNs**, and **t-SNE** for noninvasive EEG-based BCIs, testing on the PhysioNet EEG Dataset
- Won Best Research by designing a compact model, boosting accuracy from **65.07%** to **84.31%**, enabling edge computing

Projects

SignVision | *Python, Flask, JavaScript, YOLO, Gemini API, Google Cloud TTS, Vercel* — October 2025

- Won **2nd** at CalHacks (**2000+** participants) by building a computer vision app to help the visually impaired navigate safely
- Engineered a **5-stage** pipeline: mobile camera input, Python backend, **YOLO** inference, Gemini processing, AR overlay
- Delivered real-time, low-latency (**<1s**) detection with Google Cloud Text-to-Speech for audio alerts, and deployed on Vercel

Researchly | *Python, Flask, JavaScript, CSS, HTML, ADK* — September 2025

- Competed in HackMIT to engineer a **RAG** pipeline using OpenAI agents and web-search **MCPs** to match students to labs
- Built a multi-agent loop with ADK that drafts and refines personalized outreach emails, cutting drafting time by **∼30%**

AKPsi GPT | *Flask, React, Heroku, Git, Google Sheets* — August 2025

- Boosted reach-outs to chapter members/alumni by **15%** by developing a full-stack application, connecting Flask and React
- Integrated Google Sheets API to retrieve data of **300+** members and a **GPT-4o Model** for querying and answering
- Implemented preserved chat history and created the mobile UI, leading to a **20%** increase in the application's member usage

Honors

ACM Best Research Fall 2024 - Awarded for research in hybrid ML models for EEG-based Brain-Computer Interface

CalHacks 2025 2nd Place - Achieved 2nd place in the Promise Track by creating an app to help the visually impaired