Amritaraj Nair

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EDUCATION

Texas A&M University College Station, TX
B.S. Computer Science Honors Expected May 2029
Minor in Business in AI (Mays School of Business)
Minor in Statistics (College of Arts and Sciences)
President's Endowed Scholar
Relevant Coursework: Data Structures & Algorithms, C++ Design, Discrete Structures, Engineering Calculus III, Python Programming

EXPERIENCE

Artificial Intelligence Modeling for Livestock Systems Research Aug 2025 – Present
Texas A&M University *College Station, TX*

- Applied agent-based modeling (**Mesa**) and machine learning to optimize livestock nutrition under economic and environmental constraints.
- Migrated legacy **R** workflows to Python to improve reproducibility, performance, and integration.
- Built simulation models in **Python, Java, and NetLogo** to evaluate sustainability and production outcomes.

Cybersecurity and Large Language Models Research Aug 2025 – Present
Texas A&M University *College Station, TX*

- Evaluated automated Cyber Reasoning Systems powered by **LLMs**, including Theori RoboDuck and TAMU AYNIAFB.
- Benchmarked vulnerability detection across real-world **C, Python, and Java** repositories.
- Analyzed CRS effectiveness across heterogeneous software systems.

Maroon Fund — Scholars of Finance [Feb] 2025 – Present
Quantitative Developer *[College Station, TX]*

- Building **quantitative models and screening frameworks** to support equity research and investment decisions across a **$70,000 AUM** student-managed fund.
- Developing **data pipelines and valuation tools** using professional financial databases and market data to enhance the **investment committee's** analytical capabilities.
- Collaborating with portfolio teams to automate **research workflows** and deliver data-driven insights for **thesis-driven stock pitch** processes.

Aggies in Tech Oct 2025 – Present
Member *College Station, TX*

- Selected as **1 of 40** students across engineering and business colleges.
- Completing applied projects integrating software engineering and business strategy. Collaborating in small team settings to produce and pitch these products to the real world market.
- Direct mentorship and advice from Fortune 500 business and technology leaders. Earning Business of Technology Certificate.

PROJECTS

FinSeek Jan 2026
TamuHack *College Station, TX*

- Built a fraud detection pipeline using **Logistic Regression, Isolation Forest, and LightGBM** on synthetic transaction data.
- Developed financial risk forecasts using **Monte Carlo simulations (10,000 runs)** and time-series models.
- Implemented ensemble weighting via R^2 metrics to improve prediction accuracy.

Harbor Feb 2026 – Present
Lead Developer — 2026 TidalTAMU Google Gemini Track 1st Place Winner *College Station, TX*

- Built an assistive AI platform using **Gemini Flash 3.0** with a real-time chatbot, integrating **Mapbox API** and **ElevenLabs** to deliver location-aware, low-latency, voice-enhanced user experiences.
- Leveraged **NASA EOSEM** datasets spanning **70+ years of global weather data** to power predictive models estimating natural disaster risk for travel and long-term planning.
- Integrated **Google Cloud services** and an optimized **Google News API** pipeline to surface urgency-based, location-specific disaster and weather news, improving user relevance and decision-making.

ClinicalHours Dec 2025 – Present
Lead Engineer and Director of Operations *College Station, TX*

- Integrated **MapBox, Google APIs, and Resend API** for geolocation and automation.
- Processed large-scale geospatial datasets in **Python**, converting JSON to cloud-ready CSVs.
- Scraped and processed U.S. hospital datasets in Python for accurate integration into production systems.

TECHNICAL SKILLS & AWARDS

Languages: Python, C++, Java, TypeScript, SQL
Frameworks/Libraries: React, Flask, FastAPI, Pandas, NumPy, Matplotlib
Tools: Git, GitHub, Docker, AWS EC2/IAM, Google Cloud, Supabase, Travis CI
Awards: 2026 TidalTAMU Google Gemini Track 1st Place Winner, President's Endowed Scholar, Google Labs Makeathon, FRC 4192 Impact Award, Gold President's Volunteer Service Award