

Amritaraj Nair

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EDUCATION

Texas A&M University

B.S. Computer Science Honors

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

College Station, TX
Expected May 2029

EXPERIENCE

Artificial Intelligence Modeling for Livestock Systems Research

Texas A&M University

Aug 2025 – Present
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

Texas A&M University

Aug 2025 – Present
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

Quantitative Developer

Feb 2025 – Present
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

Member

Oct 2025 – Present
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

TamuHack

Jan 2026
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 **R²** metrics to improve prediction accuracy.

Harbor

Lead Developer — 2026 TidalTAMU Google Gemini Track 1st Place Winner

Feb 2026 – Present
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

Lead Engineer and Director of Operations

Dec 2025 – Present
College Station, TX

- Integrated **MapBox, Google APIs, and Resend API** for geolocation and automation. Scrapped and processed U.S. hospital datasets in Python for accurate integration into production systems.
- Processed large-scale geospatial datasets in **Python**, converting JSON to cloud-ready CSVs.
- Planned, directed, and implemented new features such as map expansion, AI resume and application tools (With OpenAI and Gemini). Created a roadmap for funding.

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