ARNAV GANGULY

Raleigh, NC | P: +1 (224) 804-5804 | asgangul@ncsu.edu | https://www.linkedin.com/in/arnav-ganguly-59ba61266/

EDUCATION

North Carolina State University — Raleigh, NC
Bachelor of Engineering — Expected May 2026
Major in Computer Science with a concentration in AI
Cumulative GPA: 3.7/4.0; Dean's List 2023-2024
Relevant Coursework: Data Structures, Software Engineering, Operating Systems, Algorithms, AI, ML, Deep Learning

WORK EXPERIENCE

Office of Undergraduate Research at NC State University — Raleigh, NC
Student Office Assistant — April 2025 – Present

- Maintain and update internal databases and spreadsheets to support office operations, ensuring accuracy in student research records and faculty project listings.
- Assist with website content management and technical updates, improving the accessibility and presentation of research resources for students and staff.

QTR.AI — San Fransisco, CA
Software Engineering Intern — May 2024 – Aug 2024

- Partnered with engineers to resolve early-stage software issues using debugging tools and logs, decreasing bug reports by 15%.
- Designed and implemented engagement-focused features using Flutter, leading to a 20% boost in user retention.
- Optimized front-end and back-end performance (e.g., lazy loading, API response tuning), achieving a 25% reduction in app load times.

Pure or Nothing — Chicago, IL
Software Engineering Intern (Python) — May 2023 – Aug 2023

- Analyzed inventory and order workflows using Python to identify inefficiencies in order processing and issue resolution.
- Extracted key performance indicators (KPIs) and created dashboards using Python libraries to guide strategic improvements.
- Built and deployed web-based tools to streamline internal operations using the web development toolkit (HTML, CSS, JavaScript, and React)
- Reduced processing and issue resolution times by 40% through technical and procedural enhancements.
- Documented improved processes to ensure cross-functional team alignment and operational scalability.

PROJECTS

Vastra – AI-Powered Outfit Recommendation System — Dec 2024

- Designed and implemented a GenAI-powered outfit selector using **Llama v2** and the **OpenAI API**, achieving over **70% accuracy** in personalized fashion recommendations.
- Engineered a **vector-based retrieval system** using a **vector database** (e.g., FAISS, Pinecone) to match user preferences with clothing data, significantly improving recommendation relevance and response times.
- Preprocessed and embedded clothing item metadata and user style inputs using **embedding models**, enabling efficient semantic search and personalization.
- Developed the frontend and backend using **Python**, **JavaScript**, and modern **web development frameworks** to create an intuitive user interface.

Matrix — Mar 2023

- Matrix is an IoT-based real-time wastewater treatment monitoring and control system that significantly reduces manual oversight and improves treatment efficiency. It enables proactive maintenance, extends equipment lifespan, and lowers operational costs.
- Built **Python**-based backend services for automated data collection, processing, and device communication.
- Improved system reliability and responsiveness by automating alerts and optimizing data handling pipelines.
- Utilized **Raspberry Pi, MQTT protocol**, and **REST APIs** to collect and transmit sensor data from treatment plants to the backend in real-time.
- Deployed system using **Flask** and **SQLite** for lightweight yet robust performance in resource-constrained environments.

ACTIVITIES

QuantaHack — Raleigh, NC
Top-3 — 2023

- Collaborated with a team to design and prototype a quantum algorithm using Qiskit, demonstrating strong problem-solving and technical skills under time constraints.

Delloitte Case Competition — Raleigh, NC
Top-3 — 2023, 2024

- Achieved **Top 3 placement** in a business strategy case competition hosted by Deloitte, competing against teams from multiple universities.
- Conducted in-depth market analysis and developed a data-driven strategic plan addressing a real-world client problem.
- Delivered a high-impact presentation to a panel of Deloitte consultants, showcasing analytical thinking, business acumen, and teamwork under pressure.

ADDITIONAL

Technical Skills: Python, Java, Data Structures, Deep Learning, Machine Learning, Artificial Intelligence, Flask, Tensorflow, Skilitlearn, Advanced in SQL, JavaScript, Typescript, HTML/CSS
Certifications & Training: Google Cloud Associate Certification