Zayn Ullah

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Education

Georgia Institute of Technology Exp. Graduation: May 2027

Bachelor of Science in Computer Science, Concentration in AI *Atlanta, GA*

- **Academic Honors:** Dean's List 2×, Zelle Miller Scholarship Recipient

Experience

Co-Founder & Software Developer Jan. 2025 – Present

SylCampus *Alpharetta, GA*

- Co-founded a productivity platform that turns cluttered class syllabi into organized dashboards, helping 700+ students across 100+ universities cut organizational time by 90% and stay on top of 5,000+ events.
- Leveraged advanced analytics and automated tracking tools to monitor 10,000+ weekly engagement events, generating actionable insights that improved user retention and boosted marketing conversion rates by 18%.
- Drove product growth and earned institutional recognition through wins at the University of Georgia Idea Accelerator and Georgia Tech's CREATE-X Startup Launch Program, validating product growth and potential.

AI Research Assistant Jan. 2025 – May 2025

Georgia Tech Research Institute *Atlanta, GA*

- Developed an AI-driven pipeline that generated 100+ valid crystal structures with targeted band gaps (1.1–1.9 eV), accelerating the discovery process for next-generation semiconducting materials by over 3×.
- Optimized large language model performance by fine-tuning LLaMA-2 with LoRA, cutting training costs by 40% while enabling scalable experimentation across 50,000+ crystal samples for rapid materials innovation.
- Enhanced predictive accuracy by reducing mean absolute error by 22%, significantly improving estimates of band gaps and formation energies essential to electronic and renewable energy applications.
- Increased multi-property alignment accuracy by 35% through targeted oversampling and dual-property generation, advancing the reliability of AI models for real-world materials design and synthesis.

Software Research Assistant Aug. 2025 – Present

Georgia Tech Research Institute *Atlanta, GA*

- Led the upgrade of an autonomous vehicle's navigation system by migrating its core software to a modern robotics framework (ROS 2 Jazzy), enabling faster development and greater long-term scalability.
- Redesigned and streamlined system's software architecture to enhance overall performance, improve reliability under real-world conditions, and simplify long-term maintenance for continuous robotics research and experimentation.
- Collaborated closely with multidisciplinary research team to integrate upgraded navigation software with onboard sensors, controllers, and embedded hardware, ensuring seamless real-world operation, and data consistency.

Projects

Atlanta Hawks Case Study | *Python, Pandas, Folium*

- Collaborated with the Atlanta Hawks marketing team to analyze 1,000,000+ ticket sales records from four seasons, uncovering trends in fan behavior, purchase timing, and geographic distribution.
- Developed a Python-based analytics framework that identified high-value customer segments and optimized marketing resource allocation across 43 games, driving data-informed decisions to maximize ticket sales.
- Created interactive visualizations and geographic heatmaps mapping over 9,000 unique zip codes, revealing regional demand patterns and improving campaign targeting efficiency.
- Delivered actionable insights into fans that helped shape loyalty programs and early-access marketing strategies.

Skills & Interests

Languages: Python, JavaScript, TypeScript, Java, C/C++, Assembly, SQL, HTML/CSS
Frameworks: Django, Flask, React, Alpine.js, Node.js, JUnit
Developer Tools: Git, Docker, AWS, Conda, PyCharm, IntelliJ, VS Code, Android Studio, n8n
Libraries/ML: NumPy, Matplotlib, OpenCV, scikit-learn, PyTorch, Hugging Face Transformers, Mistral, LLaMA
Interests: Atlanta Sports Teams (unfortunately), Swimming, Entrepreneurship, Muslim Student Association