Atharva Biyani

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EDUCATION

The University of Texas at Dallas Richardson, TX
Bachelor of Science, Computer Science Expected Graduation May 2025

- **GPA:** 3.74 /4.0
- **Involvements:** The Association for Computing Machinery, AWS Cloud Club, The Artificial Intelligence Society

TECHNICAL SKILLS

Programming: Python, Java, C, C++, JavaScript, SQL, NoSQL, PHP, HTML, CSS | React.js, Angular, Flask, Node.js
Tools: Git, Jenkins, Jira, Linux, Unix, MongoDB, Snowflake | AWS, Azure, Google Cloud, Docker, Kubernetes, Terraform

WORK EXPERIENCE

Bank of America | Software Engineer Intern June 2024 – August 2024 | Plano, TX

- Engineered a high-performance **pattern-matching algorithm** in **Python** to detect drift in **5M+ JSON objects**
- Reduced drift management processing time from several minutes to **4.5 seconds**, achieving a **47,000x speedup**
- Automated **test case generation** for JSON objects, boosting test coverage by **40%** and reproducibility
- Designed **modular** system with **orchestration**, **detection**, and **notification** engines, cutting integration time to **<2 days**

Magnifico | Software Intern October 2023 – December 2023 | Remote

- Built a video transcript generation tool using **React** and **AWS Lambda**, reducing transcription latency to **under 15 seconds**
- Enhanced user experience by developing a **profile management interface** with improved state handling
- Resolved **10+ cloud** function bottlenecks including cold start latency, inefficient **async logic**, and suboptimal memory usage
- Optimized **MongoDB** queries with **indexing** and **aggregation**, reducing execution time by **35%** on large-scale datasets

APCON | Software Front End Intern May 2023 – December 2023 | Plano, TX

- **Shipped 5+** frontend features to product, contributing to **<1%** UI-related support tickets and aligning with **SLA** compliance
- Managed **3 UI** components and resolved **35+ bugs** using **Angular** for a real-time network monitoring application
- Refactored **7+** complex **TypeScript** components, reducing runtime errors and streamlining code maintainability
- Led **30+** code reviews on **Mantis** and contributed to **Agile** sprint planning, improving software development velocity

Code Wiz | Coding/Robotics Coach January 2023 – June 2023 | Plano, TX

- Mentored K-12 students in **Scratch**, **Python** (Codio), and **VGB Python**, tailoring lessons to diverse skill sets
- Inspired early interest in **STEM**, with **80%** of students planning to pursue computer science in higher education

PROJECTS

Database Optimization Assistant | Senior Design Project for USAA January 2025 – April 2025

- Architected a production-ready **RAG architecture** offering **250+** recommendations for refining insurance databases
- Implemented a **natural language** to **SQL** engine using **Falcon 7B LLM** with sub-**50 ms** response times for analyst support
- Parsed **100+ Snowflake DDL scripts**, elevating schema consistency and reducing query latency on large datasets

Movie Sentiment Analysis | Natural Language Processing Research September 2023 – December 2023

- Trained sentiment classifiers on **50K IMDB reviews** using **XGBoost**, **LightGBM**, and **BERT** for binary classification
- Achieved highest performance with XGBoost (**AUC 0.83, F1 0.8271**), outperforming BERT in overall sentiment prediction
- Preprocessed data with **NLTK** for **lemmatization**, **tokenization**, and **stopword removal** to improve model input quality
- Accelerated model training by **2x** using GPU-enabled **Google Colab**, increasing F1 scores and reducing **overfitting**

NBA Highlights Classifier| Computer Vision January 2023 – May 2023

- Assembled an AI pipeline using **YOLOv5**, **MoveNet**, and **Random Forest** to classify NBA highlights with **77%** accuracy
- Scraped and processed **40K+ video clips** using **Selenium** and **OpenCV**, generating **980 labeled samples** for training
- Deployed the end-to-end model on **Azure** using Jupyter Notebooks for scalable training and testing
- Tuned classifier with **grid search** and **cross-validation** (e.g., jump height, angle) to enhance prediction precision by **12%**

HONORS AND ACTIVITIES

1st Place, NASA Tech Trek Hackathon 2024 (Urban.AI - sustainability tool for urban heat analysis)
Startup Grant Winner, Expanding Frontiers Space Tech Pitch Competition (Awarded $2,500 in seed funding)
Operations Director, AWS Cloud Club at UTD – Managed 6 technical cloud officers and expanded to 350+ active members