ADITYA SHUKLA

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EDUCATION

Georgia Institute of Technology
Atlanta, Georgia

M.S. in Computer Science, **GPA: 3.83**
Sep 2024 – May 2026

BITS Pilani
Hyderabad, India

B.E. in Computer Science, **GPA: 9.09/10**
Aug 2017 – Jun 2021

PROFESSIONAL EXPERIENCE

Microsoft
Hyderabad, India

Software Engineer II
Nov 2023 – Sep 2024

- **Directed the 14-member Azure Workloads Portal service**, driving SAP as a top-tier workload on Azure. Oversaw feature delivery, monthly deployments, end-to-end testing, and customer onboarding.
- Worked as a **full-stack software engineer**, working on both the frontend and backend initiatives.
- Revamped portal infrastructure, achieving **sub-two-second page load times**, exceeding the target **Lighthouse score of 95**, and improving service API response times to **less than one second.**

Software Engineer
Jun 2021 – Nov 2023

- **Engineered an end-to-end integration** of Azure Backup with SAP, automating backup for all the virtual machines and databases, reducing manual backup efforts by **80%**.
- Architected and implemented the service workflows and the portal experience with **C# .NET, Typescript and React.js**, created the swagger documentation, simplified developer on-boarding and **reduced API integration time by 30%.**

Amazon Web Services (AWS)
Seattle, Washington

Software Development Engineer (SDE) Intern - AWS Cost Optimization Hub
May 2025 – July 2025

- Built an **MCP server** that enables Amazon Q to explain **List vs. Summary** savings discrepancies using real account data, orchestrating tools via **AWS Strands** and **Bedrock** for reasoning and streaming.
- Integrated **COH APIs** (ListRecommendations, ListRecommendationSummaries) and **Athena** queries; implemented **primary validation** (10% threshold) and **fallback strategies** (disaggregation, shrinkage) for accurate explanations.
- Implemented a secure **spoofing handler** (dev service principal + **KMS**-encrypted account IDs, gamma env) with **audit logging** for safe, testable analysis flows.
- Resolved **tool parameter truncation** by designing **shared state management** across tools (stable handling of large recommendation ID sets); authored **design spec**, shipped **CLI + Amazon Q** integration, deployed with **CDK**.

Walmart Global Tech
Bangalore, India

Software Developer Intern
Jan 2021 – Jun 2021

- Migrated 2 TB of data from the legacy DB2 database to Azure Cosmos DB, improving data access speed by **25%**.
- Developed a scheduler to replace Azure Data Factory for the daily transfer of new data using **Java Spring Boot** and **Apache Kafka** resulting in a **20% improvement** in efficiency.

Microsoft
Hyderabad, India

Software Engineer Intern
May 2020 – Jul 2020

- Created a Virtual Assistant for the Enterprise Data Lake Platform by leveraging the self-serve capabilities of the EDLP Control Plane, to reduce customer onboarding time by **30%**.
- Incorporated **.NET Core**, **C#**, and the Microsoft Bot Framework, integrated NLP to detect 8 different user intents and perform automatic spell-check, added a knowledge base for answering FAQs.
- Incorporated **Typescript** and **React.js** for integrating the bot onto the platform as a minimizable web chat component.

TEACHING EXPERIENCE

Graduate Teaching Assistant — CS 3600: Intro to Artificial Intelligence Georgia Institute of Technology
Aug 2024 – Present Atlanta, GA

- Assisted in designing and grading assignments and exams for undergraduate AI course. Held weekly office hours and discussion sessions to support over 100 students.
- Provided feedback on student projects, clarified concepts such as A* search, CSPs, and probabilistic reasoning.

Graduate Teaching Assistant — CS 6601: Artificial Intelligence Georgia Institute of Technology
Aug 2024 – Present Atlanta, GA

- Supported the graduate-level AI course covering topics like search algorithms, MDPs, HMMs, and neural networks.
- Led weekly review sessions, assisted in project guidance, and responded to technical and conceptual queries on course forums.

Undergraduate Teaching Assistant — Operating Systems and Cryptography BITS Pilani
Jan 2020 – Dec 2020 Hyderabad, India

- Created and graded course content including problem sets, quizzes, and contests for 400+ students.
- Reviewed and evaluated term projects, provided debugging assistance and theoretical clarifications.

PROJECTS & ACCOMPLISHMENTS

Microsoft Hackathon - Sep 2024 - Azure Specialized | 2nd Runner-Up

- Developed a co-pilot tool using **Azure OpenAI** and function apps with **Python**, allowing automated query resolution, system insights, and issue fixing during deployment.
- Devised a **Retrieval Augmented Generation** approach to train the LLM on team-specific TSGs and documentation, reducing deployment time and reducing support requests.

Walmart Labs Hackathon - Aug 2020 | 1st Runner-Up

- Engineered an Android application utilizing geolocation services and real-time pathfinding algorithms to optimize customer navigation and reduce shopping inefficiencies within retail environments.
- Integrated a QR-based payment system, reducing checkout time by **20%**.
- Implemented a **recommender system** using collaborative filtering and Apriori association rule mining using **Python**, for personalized suggestions based on purchase history and live location, increasing average purchase size by **15%**.

Machine Learning-Driven Soccer Analytics for Strategy Optimization

- Engineered advanced features (e.g., **expected goals, PPDA**) using **StatsBomb API** data from 7,000+ matches to analyze team performance and strategies.
- Applied **K-Means Clustering** and **PCA**, achieving optimal cluster metrics (Silhouette: 0.24, DB Index: 0.92) and used **Random Forest** to predict match outcomes with **82.5% accuracy**.
- Leveraged **Python** and libraries like **NumPy**, **Pandas**, and **Scikit-learn** to build scalable pipelines for feature engineering, unsupervised learning, and data visualization.

Deep Learning Pipeline to Detect Attacks on IoT Networks

- Generated temporal embeddings for IoT networks using an LSTM, and generated spatial embeddings using a GCNN. Then used these embeddings to train an FNN to classify IoT networks into 4 states: safe, traffic attack, topology attack, or resource attack.
- Utilized Python, Keras and Tensorflow.

COURSES & SKILLS

- **Programming & Scripting Languages:** C++, Python, C, Java, C#, SQL, JavaScript, TypeScript
- **Technologies & Frameworks:** Git, React.js, Node.js, Apache Kafka, Spring Boot, Flask, TensorFlow, Pytorch, Hadoop, MySQL, LAMP, Oracle, Spark, HTML, Kubernetes, Linux, AWS, Google Cloud Platform, Frontend, Backend, Full-stack, Microservices
- **Courses:** Machine Learning, Artificial Intelligence, Information Retrieval, Data Structures & Algorithms, Data Database Management Systems, Object Oriented Programming, Parallel Computing, Cryptography, Operating Systems, Networks, Deep Learning, Computer Vision