

ABHIRAJ CHAUDHARY

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EDUCATION

Arizona State University
Bachelor of Science in Computer Science

May 2025
GPA: 4.00

TECHNICAL SKILLS

Languages: Go, Python, C++, Kotlin, Java, TypeScript, JavaScript
Backend & Distributed Systems:: gRPC, REST APIs, Microservices, Spring Boot, Node.js, Express, Django, FastAPI, GraphQL, Agile
Cloud & Infrastructure:: AWS (EC2, S3, Lambda, DynamoDB, RDS, Redshift), Docker, Kubernetes, Jenkins, Terraform, Git, Jira
Data & ML:: PostgreSQL, MongoDB, MySQL, Kafka, PyTorch, TensorFlow, Airflow

EXPERIENCE

Software Development Engineer Intern

August 2024 – May 2025

Tweebaa, Inc

Tempe, AZ

- Engineered secure, modular backend APIs in Kotlin for PayPal and Stripe multi-currency transactions, increasing success rates by 20%.
- Built backend RESTful APIs with modular design and tracing support to monitor service-level failures and response times.
- Spearheaded deployment pipelines on AWS (EC2, S3, Lambda) within a microservices architecture; launched the Tweebaa app on Google Play Store, improving scalability and reducing release cycles by 30%.
- Led integration and system testing of core app components using Postman, JUnit, and manual validation pipelines, ensuring high system reliability and seamless multi-service interactions across 10+ features, with strong emphasis on testability and operational excellence.

Software Developer Analyst

February 2023 – July 2024

Terra-Fresh

Tempe, AZ

- Pioneered ML-driven trend prediction pipelines and automated data scraping using Python scripts deployed on AWS EC2, aggregating 32M+ records at scale from USDA and Google Trends for real-time agricultural market insights.
- Developed APIs with Express.js (JavaScript) and Node.js, leveraging PostgreSQL and Kafka for low-latency crop insights via resilient pipelines and fault-tolerant architecture.
- Managed PostgreSQL and MySQL data layers hosted on AWS RDS, ensuring optimized data retrieval and reliable data synchronization for analytical dashboards and forecasting tools processing over 1M records.

Undergraduate Research Assistant

March 2022 – November 2022

Arizona State University

Tempe, AZ

- Constructed Python-based simulation tools using PyReason and NetworkX to model supply chain disruptions on the Soc-Pokec dataset (1.6M nodes), uncovering key vulnerabilities in 20% of suppliers.
- Streamlined data profiling and feature engineering pipelines using Python, Pandas, and Scikit-learn, enhancing data quality by 35% and streamlining ML experimentation workflows.
- Scripted backend Python routines for data cleaning, transformation, and pre-processing at scale, optimizing datasets for ML modeling and ensuring high data integrity and reliable batch processing across 5+ pipelines.

Software Engineer

January 2022 – May 2022

Bridge-2-Africa: E-Learning Lab

Tempe, AZ

- Delivered a Django web app with PostgreSQL, optimizing backend logic and DigitalOcean deployment to improve server reliability and response time by 60% for 500+ users.
- Orchestrated deployment pipelines with Git and Docker, enhancing service availability and reducing page load latency by 40%.

PROJECTS

Patient Management System (Microservices)

February 2025 – March 2025

- Designed and deployed a production-grade patient management system using Spring Boot microservices, Kafka for event-driven communication, and gRPC for inter-service protocols, supporting patient registration, billing, and analytics services.
- Implemented authentication with Spring Security and JWT, containerized services using Docker, and provisioned infrastructure via CloudFormation on AWS LocalStack for local CI/CD and testing.

Product Inventory Catalog (Full-Stack System)

November 2024 – January 2025

- Architected a full-stack inventory and product catalog system with Express.js and PostGraphile, implementing CRUD operations for products, suppliers, and inventory transactions via GraphQL API with PostgreSQL and TypeORM.
- Integrated a React front-end using Apollo Client and GraphQL Codegen, supporting real-time inventory queries, type-safe schemas, and many-to-many product-supplier relationships with robust API contract enforcement.

Order Management System with Go and gRPC

August 2024 – September 2024

- Constructed distributed microservices in Go using gRPC and Protocol Buffers to simulate an end-to-end order and kitchen processing system.
- Implemented service interfaces with Protocol Buffers and validated gRPC traffic under simulated load, ensuring fault-tolerant communication at the edge.

PUBLICATIONS

Aditya, D., Mukherji, K., Balasubramanian, S., Chaudhary, A., & Shakarian, P. (2023). PyReason: Software for Open World Temporal Logic. *arXiv [Cs.LO]*. <http://arxiv.org/abs/2302.13482>