

Akshith Macharla

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Education

California State University, Chico

Master of Science in Computer Science

Chico, CA

Dec 2026

Relevant Coursework: Operating Systems, Data Structures, Software Design, Web Development, Computer Vision, Machine Learning, Data Science

Chaitanya Bharathi Institute of Technology

Bachelor of Engineering in Electrical and Electronics Engineering

Hyderabad, India

2017 – 2021

Relevant Coursework: Microprocessors and Microcontrollers, Embedded Systems, Digital Electronics and Logic Design, Digital Signal Processing

Technical Skills

- **Languages:** Java, C++, Python, TypeScript, Bash
- **Backend & APIs:** Spring Boot, FastAPI, Django, REST APIs, JPA/Hibernate, gRPC, Protocol Buffers, Sockets
- **Systems & Distributed Systems:** Multithreading, Thread Safety, Multiprocessing, Kafka, RabbitMQ, Redis, TCP/IP, UDP
- **Databases:** PostgreSQL, Oracle DB, Elasticsearch, Snowflake, MongoDB
- **Cloud & DevOps:** AWS, Docker, Kubernetes, EKS, GCP, Azure Container Apps, Jenkins, GitHub Actions, CMake, Git, Linux
- **Testing & Observability:** JUnit, Mockito, pytest, Postman, Prometheus, Grafana, CloudWatch, Software-in-the-Loop (SiL)
- **AI / LLM:** RAG, Vector Databases, FAISS, LangChain, MCP

Experience

Cognizant Technology Solutions

Programmer Analyst / Associate Software Engineer

Hyderabad, India

Dec 2021 – Aug 2024

- Built and maintained Java/Spring Boot backend services for policy lookup, claims intake, workflow status updates, customer validation, and audit-history retrieval supporting 10K+ active users.
- Designed REST API workflows with request validation, structured error responses, exception handling, and consistent response contracts for frontend and internal consumers.
- Implemented business-rule validation for policy status, claim eligibility, mandatory document checks, user permissions, and workflow state transitions across transaction-heavy insurance flows.
- Improved p95 API latency from 250ms to 200ms by optimizing SQL/Hibernate data access, reducing redundant reads, and refactoring service-layer logic.
- Triageed 100+ production issues involving API failures, database inconsistencies, service errors, and performance regressions; supported post-release monitoring to maintain 99.9% service availability.
- Wrote JUnit/Mockito tests for core validations and workflow transitions and validated REST APIs with Postman before QA handoff and release sign-off.
- Supported CI/CD and production releases using Git, Maven, Jenkins, Linux, and JIRA, including build validation, deployment checks, regression testing, and production support.

Edureka

Data Science and Machine Learning Intern

Hyderabad, India

Jan 2023 – Jul 2023

- Built a reproducible Python/Pandas and PostgreSQL data pipeline to clean, validate, and transform 1.3M+ records, handling missing values, duplicates, outliers, categorical encoding, and source-to-output reconciliation.
- Wrote SQL queries using joins, CTEs, window functions, percentile calculations, and conditional aggregations to create reusable cohort-level datasets and KPI tables for downstream analysis.
- Implemented automated data-quality checks for schema consistency, null rates, duplicate keys, accepted value ranges, and category distributions; developed Tableau dashboards for data quality, risk-tier distribution, and segment-level performance.
- Trained and tuned an Elastic Net logistic regression model using 5-fold time-aware cross-validation, improving ROC-AUC from 0.71 to 0.84.

California State University, Chico

Web Developer – TypeScript, SvelteKit, Tailwind CSS, Cloudflare Workers

Chico, CA

Nov 2025 – Feb 2026

- Shipped the Chico Love event website end to end, owning landing pages, registration UX, backend integration, and deployment workflow.
- Built the registration backend using Cloudflare Workers and D1 with schema design, indexes, input validation, idempotent email uniqueness, and a standardized Wrangler local-development and deployment workflow.

Projects

Flash-Sale Seat Reservation Service | Java 21, Spring Boot, PostgreSQL, JPA, Flyway, Docker, Azure

Feb 2026

- Built a flash-sale seat reservation backend with REST APIs for TTL-based seat holds, booking confirmation, hold release, and real-time seat availability using Spring Boot and PostgreSQL.
- Enforced concurrency-safe reservations using transactional service logic and database uniqueness constraints, ensuring only one request succeeds when multiple users race to reserve the same seat and returning 409 Conflict for competing requests.
- Containerized the service with Docker and built a GitHub Actions CI/CD pipeline to publish images to GHCR and deploy to Azure Container Apps with Azure PostgreSQL and Flyway-managed schema migrations.

Parallel BPE Tokenizer | C++17, Multithreading, Thread Pool, Hash Maps, CMake

Mar 2026

- Built a GPT-2-compatible byte-level BPE tokenizer with vocabulary/merge loading, byte-to-unicode mapping, ranked hash maps, BPE merge application, and token-ID generation.
- Parallelized batch tokenization using a thread pool, work partitioning, and thread-local caching to reduce repeated merge computation; benchmarked 10K-document batches at 2.11M tokens/sec, achieving 5.0× speedup with 8 threads over the single-threaded baseline.

Achievements & Hackathons

- LeetCode: 1600+ contest rating Data Structures and Algorithms; SQL 50 and Pandas skill badges.
- Certifications: AWS Certified Developer Associate | Meta Backend Developer
- CalHacks 12.0 Hackathon – Built the 2nd most-used AI agent on the Fetch.AI track with 7.2K interactions.