

Ashutosh Jha

+91 9939964663 | ashutosh.jha.cs@gmail.com | [linkedin.com/thealonemusk](https://www.linkedin.com/in/thealonemusk) | github.com/thealonemusk

EXPERIENCE

Software Engineer

Jan 2025 – Present

Paytm

Noida, India

- Build and maintain **distributed backend services** for Paytm Soundbox IoT payment devices, supporting real-time transaction processing across millions of merchants and **12+ device variants** in India and Indonesia
- Design real-time, **pub/sub-based data pipelines** (MQTT) for RTOS-based devices, delivering sub-second event delivery at scale across a distributed device fleet handling millions of daily transactions
- Architected a low-latency audio streaming pipeline for AI Soundbox using phase-wise chunking, **Base64-encoded PCM buffering**, and a **10K-entry prefetch buffer**, reducing decoding overhead versus the prior AMR/MP3 approach
- Designed a Root CA certificate validation and rotation system for secure device authentication across the fleet, working closely with security and infra teams
- Designed and built an **end-to-end agentic AI development pipeline** – architect, developer, reviewer, and validator agents coordinating autonomously from a single Jira ticket through code, review, and deployment – cutting feature planning-to-deployment time from **2 weeks to 4 days**

Software Developer Intern

Mar 2024 – Jun 2024

Denr Financial Services

Remote

- Built a cross-platform mobile app in **React Native** with authentication, profile management, and financial data visualization, taking it from POC to a production-ready application
- Integrated **AWS Cognito, S3, and Lambda**; improved backend API response times by **40%** through async processing and caching
- Wrote a Jest-based automated test suite reaching **85% coverage** and participated in code review, reducing regression bugs shipped to production

PROJECTS

OktaDB – Embedded Relational Database Engine *C, B-Tree, File Systems*

- Built a relational database engine from scratch in **C** with a custom storage engine, page-based persistence layer, and **B-Tree indexing** for $O(\log n)$ reads, inserts, and updates
- Designed a SQL-like query executor supporting **INSERT, SELECT, DELETE** with predicate filtering, with no external libraries

ThrottleX – High-Throughput Rate Limiting Service *Java, Spring Boot, MySQL, Docker*

- Built a rate-limiting microservice implementing **Token Bucket** and **Sliding Window** algorithms, exposing REST APIs designed for high-throughput, low-latency use
- Containerized with **Docker** and exposed monitoring endpoints for real-time observability of token state and throughput

Push2Prod – Automated Cloud Deployment Platform *Node.js, AWS (EC2, S3, EKS), Docker*

- Built a Git-to-cloud deployment platform with **Redis-backed task queues** coordinating concurrent deployment workflows across **EC2, EKS (Kubernetes), and S3**
- Integrated **GitHub Actions** CI/CD pipelines with AWS infrastructure for automated build, test, and deploy workflows

TECHNICAL SKILLS

Languages: C++, C, Java, Python, JavaScript

Distributed Systems & Backend: REST APIs, Microservices, Event-Driven Architecture (MQTT pub/sub), Spring Boot, Node.js, JPA/Hibernate

Databases: MySQL, PostgreSQL, Redis

Cloud & DevOps: AWS (EC2, S3, EKS/Kubernetes, Lambda, Cognito, IoT Core), Docker, Git, GitHub Actions CI/CD, Jenkins, Kibana

Frontend (Secondary): React.js, React Native, HTML/CSS

Coursework: Data Structures & Algorithms, Object Oriented Programming, Database Management Systems, Operating Systems, System Design, Computer Networks

EDUCATION

B.Tech in Computer Science and Engineering

Nov 2021 – Jul 2025

National Institute of Technology, Jalandhar (NIT Jalandhar)

CGPA: 7.79

ACHIEVEMENTS

- **Codeforces Expert** (rating **1676**) – [profile](#); strong applied grounding in data structures, algorithms, and problem-solving under constraints
- **Educational Codeforces Round 186** – **Global Rank 109** out of 40,000+ participants (Div. 2)
- **LeetCode** rating **1669**; solved **1200+** DSA problems across LeetCode, Codeforces, and GeeksforGeeks – [profile](#)
- **Smart India Hackathon 2023** – National Finalist among 1M+ participants (Problem ID: SIH-1461)