YASH SINGHAL

SOFTWARE ENGINEER

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PROFESSIONAL SUMMARY

Software engineer experienced in building production web applications, backend services, workflow automation, and Kubernetes-based deployment tooling. Works across Java/Spring Boot, TypeScript/Vue.js, Python, SQL, and REST APIs, with ownership spanning **requirements, API contracts, implementation, testing, CI/CD, and production support**.

EXPERIENCE

ZETA | Software Development Engineer I - Bengaluru, India **Aug 2025 - Present**

- **Eliminated record-by-record handling across seven operational processes** by building an end-to-end bulk-execution system: a Vue.js upload flow and Java/Spring services validate one CSV, fan out asynchronous work, and report per-record outcomes.
- **Built the safety and processing layer for a core statement-generation rearchitecture** onto Redshift-backed Apache Flink pipelines; passed 461 automated tests and processed a 3,242-statement cohort with zero failures or unintended writes.
- **Led operator-driven PostgreSQL migration adoption across six Java/Spring services**, turning years of cross-environment drift into idempotent baselines verified against replayed real schemas; four released to production, two live in staging.
- **Replaced manual, cross-service provisioning with two Java/Kubernetes operators**; declarative CRDs and reconciliation loops converged six dependent resource types, making environment onboarding repeatable and recoverable from partial failures.
- **Owned root-cause analysis for 30+ production incidents at bank tenants in India and the US**, tracing failures across services, workflow engines, Kubernetes resources, and tenant configuration through to data, config, and code fixes.
- **Made critical Java/Spring write paths safe under duplicate requests and concurrent updates** with idempotency, optimistic retries, ownership validation, transactional boundaries, and explicit state machines.

ZETA | Graduate Intern - Bengaluru, India **Apr 2025 - Jul 2025**

Placed 2nd in Zeta's Beta Engineering Academy (Software Development track); built Splitwise on Credit Line, a Java/Spring Boot microservices capstone covering shared expenses, credit tracking, repayments, and statements.

CEI AMERICA | Software Engineering Intern - Remote **Jan 2025 - Apr 2025**

Built responsive frontend modules and integrated REST APIs in cross-functional Agile delivery.

PUNJAB NATIONAL BANK | Software Engineering Intern - Delhi, India **Jul 2024 - Aug 2024**

Developed an LLM-assisted car-loan application for customer data collection and backend API interaction; containerized the solution with Docker.

IIT MADRAS | Teaching Assistant - Remote **Oct 2023 - Jun 2024**

Led full-stack development bootcamps and mentored student projects; 85% of participants achieved top grades.

PROJECTS

Persistent-Memory LLM Chatbot | Python, Flask, SQLAlchemy, LLM APIs **GitHub**

- **Designed a three-stage memory workflow** that classifies new information, creates or updates database-backed memories, retrieves relevant context across sessions, and injects it into response generation.

IdemProbe - API Idempotency Testing CLI | Java 21, Spring Boot, PostgreSQL, Testcontainers **GitHub**

- **Built an open-source Java CLI** that detects duplicate side effects and unstable identities across sequential and simultaneous API retries; used virtual threads, JSONPath invariants, CI-ready exit codes, and PostgreSQL-backed vulnerable/fixed tests.

TECHNICAL SKILLS

Languages: Java, TypeScript, JavaScript, Python, SQL

Backend & Data: Spring Boot, Flask, REST APIs, JPA/Hibernate, PostgreSQL, Flyway, Redis

Frontend: Vue.js, React, HTML/CSS

Development & Delivery: AWS, Kubernetes, Helm, Docker, Git, Maven, Jenkins, CI/CD, JUnit, Pytest

EDUCATION

Indian Institute of Technology Madras **2021 - 2025**

BSc in Programming and Data Science **CGPA: 8.7/10**

Maharaja Agrasen Institute of Technology (GGSIPU) **2021 - 2025**

B.Tech. in Information Technology **CGPA: 8.8/10**

RECOGNITION

3 Ultimate Team Awards and 1 Mountain Mover Award (Zeta); TCS CodeVita Season 12 global ranks 103 and 153 among 100,000+ participants; **700+ LeetCode problems solved**