

Shiwang Kumar Rai

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Technical Skills

Languages: Java, Python, C++, SQL (PostgreSQL, MySQL, MongoDB), HTML/CSS
AI & Machine Learning: LangChain, Spring AI, RAG Pipelines, Agentic AI, Prompt Engineering
Backend & Architecture: Spring Boot, FastAPI, Spring Cloud, Apache Kafka, gRPC, RESTful APIs
Cloud & Tools: AWS (S3, EC2), Microsoft Azure, Docker, Git, CI/CD, Postman
Core CS: Data Structures & Algorithms, OOP, DBMS, Operating Systems

Professional Experience

Software Engineering Intern

July 2025 – September 2025

Predulive Labs

Lucknow, India

- **Engineered 12+ RESTful APIs** using FastAPI, facilitating a **20% increase** in backend data processing speed and system throughput.
- **Architected data validation layers** using Pydantic, reducing runtime failure scenarios by **30%** through strict schema enforcement.
- **Optimized MongoDB queries**, resulting in a **15% reduction** in API response latency for high-frequency data ingestion.
- **Streamlined deployment cycles** by co-configuring CI/CD pipelines, accelerating feature release frequency by **10%**.

Projects

Micropatient — Patient Management Microservices

GitHub

Spring Boot, Spring AI, FastAPI, Apache Kafka, gRPC, PostgreSQL, Docker, RAG

- **Architected a healthcare ecosystem** with **5+ modular microservices**, achieving **99.9% fault isolation** between core services.
- **Orchestrated Agentic AI workflows** with LangChain to automate **85% of routine patient queries** via intelligent decision support.
- **Built a RAG pipeline** using vector databases, improving LLM-generated response accuracy by **40%** for context-aware medical data.
- **Reduced inter-service latency by 25%** by implementing gRPC for critical communication paths and Kafka for event-driven messaging.
- **Containerized environment** using Docker Compose, ensuring **100% parity** between development and production environments.

Foodingo — Full-Stack Food Ordering Platform

GitHub

React, Java, Spring Boot, MongoDB, Spring Security (JWT), Azure, AWS S3, Razorpay

- **Developed a secure authentication module** using JWT and Spring Security, managing sessions for **200+ simulated users**.
- **Integrated AWS S3** for scalable storage of **1,000+ assets** and Razorpay for encrypted, production-ready payment processing.
- **Deployed backend on Microsoft Azure**, configuring auto-scaling to maintain **99.9% uptime** during peak load testing.
- **Refactored React state management**, cutting redundant API calls by **15%** and improving page load speed by **1.2 seconds**.

Education

Oriental Institute of Science and Technology

Bhopal, India

Bachelor of Technology in Computer Science and Engineering

Expected June 2026

CGPA: 7.70 / 10.0

Fr. Agnel School

Noida, India

Senior Secondary (Class XII) — **Percentage: 88.4%**

2021

Achievements & Technical Activities

- **Data Structures:** Solved **350+ problems** on LeetCode; ranked in the **top 15%** in global weekly contests.
- **Certifications:** Earned Java Programming (Infosys Springboard) with a **90% assessment score**; C++ (CodeHelp).
- **Pattern Recognition:** Advanced Speedcubing (CFOP method); optimized solving algorithms for complex 3D patterns.
- **Team Collaboration:** Active Basketball player; coordinated strategies and tactical roles in competitive matches.