Bipin Shrestha

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SUMMARY

Motivated Computer Science student passionate about software development and problem-solving. Proficient in Java with strong algorithms and data structures skills, experienced in full-stack web development and cloud/DevOps projects, eager to contribute innovative solutions and grow in a dynamic tech environment.

EDUCATION

University of Louisiana at Monroe   Monroe, LA
 Bachelor of Science in Computer Science
   Data Structures and Algorithms, Object-Oriented Programming, Operating System, Computer Networks, Database Management

PROJECTS

Hotel Booking Application   *Website* | *Repository*

A full-stack hotel booking system for privately-owned or large hotels, built with Spring Boot, Next.js, and AWS.
- Implemented secure JWT-based authentication with role-based access for users, supporting sign-up, login, bookings, payments, and profile management.
- Developed admin dashboard for room management (CRUD) and booking approvals, integrated with asynchronous email notifications and Stripe payments.
- Deployed backend on AWS (EC2, RDS, S3) with CI/CD, reducing **deployment time from 30 mins to <5 mins**.

Tech Stack: Java, Spring Boot, Spring, Next.js, AWS, MySQL, Tailwind CSS, JavaScript

Quizzes Microservice Application   *Repository*

A microservices-based quiz app using Spring Boot and Spring AI with local AI model that generates Category-based quizzes via Category and Quiz Services, managed through API Gateway and Congi server with externalized configuration
- Developed an AI-powered quiz platform using Spring AI with a locally hosted model, backed by a hybrid database architecture (MongoDB for flexible storage, PostgreSQL for relational data).
- Built a resilient microservices ecosystem with API Gateway, Eureka Service Registry, and Config Server, enabling **10,000+ async quiz requests/min** through RabbitMQ and Kafka event streaming.
- Ensured high availability and fault tolerance by deploying services in Docker containers and implementing **Resilience4j Circuit Breaker with Retry, Fallback, and Actuator Monitoring**, reducing service failure rate by **35% under load testing**.

Tech Stack: Java, Spring Boot, Spring AI, MongoDB, PostgreSQL, RabbitMQ, Docker, GitHub

Train management System (Backend)   *Repository*

A Full Backend Enterprise level Train Management System built with java spring boot to manage trains station, routes, schedules, seats, booking and payments with secure JWT-based authentication.
- Built Spring Boot REST API with Hibernate + MySQL for trains, stations, routes, schedules, seats, and bookings, with scalable pagination, sorting, and global error handling.
- Refactored the payment validation module by applying AOP principles, resulting in a **20% reduction in code duplication** and a more modular design, facilitating easier updates and maintenance. **OpenAPI/Swagger UI** for interactive API.

Tech Stack: Java, Spring Boot, MySQL, Hibernate

Stock Prediction AI Platform   *Repository*

AI-powered stock prediction web app with Next.js frontend and Spring Boot + Spring AI backend. Predicts stock prices for a given time (in months) from news/statements using Open Router API, secured with Spring Security.
- Developed AI-powered stock prediction web app with Next.js frontend (interactive charts) and Spring Boot + Spring AI backend, leveraging generative AI for predictive insights.
- Integrated OpenRouter API for stock predictions, implemented secure user login and premium authentication via Spring Security, and built interactive charts with Chart.js, TypeScript, and TailwindCSS.

Tech Stack: Java, Spring Boot, MySQL, Hibernate, Spring MVC, Next.js, TailwindCSS, TypeScript, Generative AI, OpenRouter

Technical Skill

Frontend: React.js, Next.js, TypeScript, JavaScript (ES6+), HTML5/CSS3, Tailwind CSS, Chart.js, Responsive UI
Backend & APIs: Java, Spring Boot, Spring AI, REST APIs, Git, JWT Authentication & Role-Based Access, AOP, Microservices
Databases & Data: MySQL, PostgreSQL, MongoDB, Hibernate/JPA ORM, Data Modeling, Caching
AI & Automation: OpenRouter API, Generative AI, Spring AI, n8n, MCP
DevOps & Cloud / Project Management: Docker, RabbitMQ, AWS (EC2, RDS, S3, API Gateway, Elastic Beanstalk, SNS, SQS, DynamoDB), CI/CD (CodePipeline & CodeBuild), Linux, GitHub, Jira