BookVerse — AI-Powered Online Bookstore

# Link: [*https://bookstore-application-3eyp.onrender.com*](https://bookstore-application-3eyp.onrender.com)

(Please note: The website may take up to 2 minutes to load as it wakes from sleep mode. If you encounter a gateway error, kindly refresh the page.)

# What is BookVerse?

BookVerse is a online bookstore built with Spring Boot, offering a seamless shopping experience. It includes secure authentication, a shopping cart, order processing, billing, email notifications, and an AI chatbot for personalized book recommendations.

# Why I Built This Project

This project was developed to deepen practical skills in full-stack development using Spring Boot and to create an intelligent platform that connects readers with books through personalized, AI-driven recommendations.

# Problem Statement / Need

Lack of integrated online bookstores combining secure transactions and AI-based suggestions.

Need to demonstrate backend expertise with real-world e-commerce workflows and AI integration.

# Key Features

• Intuitive bookstore catalog

• Secure user authentication and access control

• Dynamic shopping cart with complete management

• Order processing with billing and invoice generation

• Email notifications for order updates

• AI chatbot powered by OmniDim for book recommendations

# Technologies Used (Tech Stack)

• Backend: Java, Spring Boot (MVC, Security, Data JPA)

• Frontend: HTML5, CSS3, Thymeleaf

• Database: PostgreSQL

• Email Service: JavaMailSender

• AI Chatbot: OmniDim agent integration

• Build: Maven

• Version Control: Git & GitHub

• Deployment: Docker, Render

# Learning Outcomes

• Advanced Spring Boot web and security features

• RESTful API design and frontend integration

• Email automation for customer communication

• AI chatbot integration and user interaction design

• Debugging, testing, and deployment best practices

# Challenges Overcome

• Maintaining data consistency during orders

• Balancing security with user experience

• Integrating a third-party AI chatbot with limited customization

• Managing edge cases in cart and billing flows

• Configuring reliable email notifications

# Limitations

• The AI chatbot uses OmniDim, a third-party agent with a fixed knowledge base, limiting customization and domain-specific intelligence.

• Full control over chatbot learning and responses is currently restricted.

# Future Enhancements

• Develop a custom AI recommendation engine with advanced NLP for deeper personalization

• Add user reviews, ratings, and social sharing features

• Adopt microservices architecture for improved scalability

• Integrate more diverse payment gateways