

SHIHAN ZHENG

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EDUCATION

University of Galway <i>MSc. Information Systems Management</i>	September 2023 - May 2024 <i>Galway, Ireland</i>
Fujian Agriculture and Forest University <i>BSc. Accounting</i>	September 2016 - June 2020 <i>Fujian, China</i>

TECHNICAL EXPERTISE

Languages: Java, C#, TypeScript, JavaScript, SQL, XML, HTML, CSS
Developer Tools: VS Code, MS Visual Studio, IntelliJ Idea, Spring Tool Suite
Open Source Frameworks: Spring Boot, Spring Framework, Spring Cloud, .NET, Entity Framework ORM, Next.js 13, Gatsby, Express.js, Tailwind CSS,
Others: Microservices, Apache Kafka, AWS EC2, AWS RDS, Azure, Docker, Jenkins, Kubernetes, Git, MySQL, Microsoft SQL Server, MongoDB, JUnit, Mockito, Jest, Maven

WORK EXPERIENCE

Outlier <i>Remote AI Training Contributor</i>	July 2024 - <i>Remote, Ireland</i>
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- Create prompts to help improve the AI model in code generation, explanation, documentation, refactoring and unit testing.
- Conduct thorough reviews of AI-generated code, comparing it with production-ready code to provide balanced feedback on accuracy, efficiency, readability, and real-world applicability.
- Input refactored code to assist AI training.

PROJECTS

Online Shopping Platform (<https://github.com/zhengshihan/microservice-shopping-platform>)

- Implemented a microservices-based online shopping application including products show page, inventory management, order processing functionalities and notification function.
- Technology stack: **React, Spring Boot, Spring Cloud, Kafka, Docker, Kubernetes**
- Developed the application using TypeScript to improve type safety and maintainability.
- Integrated Gemini AI to build a chatbot to provide personalized event recommendations tailored to customers' needs.
- Built an API Gateway to manage routing, load balancing, and security for microservices, simplifying client interactions and improving overall system performance.
- Used Eureka for the application service discovery and registration to have load balancing and fault tolerance.
- Integrated Keycloak for authentication and authorization.
- Created Message broker in Kafka for asynchronous order processing.
- Containerized the application using Docker, ensuring consistent environments across development,

testing, and production.

- Used Kubernetes to implement and manage deployments with multiple replicas and configured PersistentVolumeClaim (PVC) for product, inventory, order, customer data storage.

Book Management System (<https://github.com/zhengshihan/book-management-system>)

- Implemented an online book resource management system containing features of books show page, book searching, user login/registration, and role-based access control.
- Technology stack: **Thymeleaf, Spring Boot, Spring MVC, Spring Data JPA, Spring Security**
- Used AWS RDS to manage scalable, secure relational databases, ensuring high availability and automatic backups for the production environment.
- Used Spring Data JPA to create Repository to manage DAO layer interaction with Service layer and DB.
- Had unit testing coverage above 85% of backend codes through JUnit and Mockito.
- Used Docker to containerize applications, ensuring consistent environments across development, testing, and production.
- Used Jenkins to automate the deployment process by building and deploying applications to the AWS Elastic Beanstalk, streamlining continuous integration and continuous delivery (CI/CD).

Island Bicycle Rental Platform(<https://bike-rent-management.vercel.app/>)

- Implemented a comprehensive island bicycle rental web application included bicycle management, order management, user login/registration, and role-based access control for both users and administrators.
- Technology Stack: **React.js, Node.js, Express.js, MongoDB, Redux Toolkit, Material UI, Tailwind CSS**
- Used Mongoose to automatically generate schemas, models and query methods.
- Utilized Redux Toolkit for efficient state management, enabling a streamlined approach to handle complex user interactions and data flow across the application.
- Implemented authentication and authorization using JWT.
- Deployed the application on **Vercel**.

Online Flower Ordering E-commerce (<https://github.com/zhengshihan/flowerWeb>)

- Implemented a modern e-commerce web application included flowers show pages, user login/registration, and order management.
- Technology stack: **React, ASP.NET Core, Entity Framework Core, SQL Server**
- Utilized ASP.NET Core to build scalable and high-performance RESTful APIs, allowing seamless communication between the front-end and back-end over the web.
- Leveraged Entity Framework Core for sophisticated data management, ensuring better data integrity, security, and scalability.
- Used React to build User interface with Responsive Design to allow app to run on mobile device/desktop.

AWARDS

National Scholarship

Ministry of Education of the People's Republic of China