

Richard Mackey

Junior Java Developer

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<https://richard-mackey-portfolio.onrender.com> [Github](#) [LinkedIn](#)

Professional summary

Java developer with hands-on experience building Spring Boot applications, REST APIs, and cloud-ready microservices. Background as a PhD chemist and Head of Chemistry provides strong analytical problem-solving skills and the ability to communicate technical concepts clearly. Seeking a Java engineering role within an agile team to contribute to scalable, production-grade applications whilst continuing to develop expertise in AWS, DevOps practices, and AI-assisted development tools.

Technical skills:

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Languages: JavaScript, Java, Python, HTML/CSS, SQL

Frameworks/Libraries: React, Spring Boot, Express, Bootstrap

Tools: Git, PostgreSQL, MongoDB, JWT, REST APIs, GitHub Actions, CI/CD

Testing: JUnit 5, Mockito, Integration Testing, Unit Testing, Test-Driven Development (TDD)

Projects overview: all projects can be viewed on GitHub and my portfolio website

Poise PMS: Full-stack project management system built with Spring Boot, JDBC, PostgreSQL, and Thymeleaf. Evolved from a console application to a web-based platform supporting concurrent users. Implemented comprehensive testing strategy with JUnit 5 and Mockito, including 15 service layer unit tests validating business logic, edge cases, and data integrity rules. Integrated CI/CD pipeline with GitHub Actions ensuring all tests pass before deployment to Render. Primary challenges: refactoring to separate business logic from presentation layer and implementing professional testing practices with dependency injection and mocked repositories.

iTunes search web app: Full-stack application integrating iTunes Search API. Users can select media types and add items to their favourites. Built with React, Express.js, and JWT-secured endpoints. Primary challenge: filtering inconsistent API responses where media types weren't reliably separated.

Event planner: Event management application built with React, Context API, Formik, React Router, and Bootstrap. Primary challenge: implementing complex form validation and CRUD operations without a backend.

Raspberry Pi: In addition to my coursework, some personal projects include Raspberry Pi sensor systems and LED displays with SSH-based remote management.

HyperionDev May 2025 - present: Full Stack Web and Software Engineering Course

- Completed full-stack development bootcamp with hands-on projects
 - Built responsive web applications using Java, React, Spring Boot, and Express
 - Implemented JWT authentication, RESTful APIs, and database integration
 - Practiced Git workflows and code documentation standards
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Full time science teacher September 2011 - May 2025

Collaborated with departmental teams of 10+, updating curricula and resources for 1,000+ students annually. Improved exam outcomes across all ability ranges whilst developing strong communication skills with students, parents and colleagues.

Education

PhD in Chemistry, University of Liverpool September 2007-January 2011

Researching layered, inorganic compounds and their applications in catalysing organic chemical reactions.

Masters Degree in Chemistry, Manchester Metropolitan University September 2004-September 2007
My research project involved adding functional groups to the relatively unreactive buckminsterfullerene.