Richard Mackey

Junior Full Stack Web and Software Developer

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https://richard-mackey-portfolio.onrender.com   Github   LinkedIn

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Professional summary

After gaining a PhD in Chemistry from the University of Liverpool in 2011, I taught science, becoming a Head of Chemistry at GCSE and A level in state maintained schools. Following this, I decided to transition to software development. Seeking a junior role to apply full-stack skills in a professional environment. I am a keen problem solver, and have developed excellent communication skills as a result of my teaching background.

Technical skills:

Languages: JavaScript, Java, Python, HTML/CSS, SQL
Frameworks/Libraries: React, Spring Boot, Express, Bootstrap
Tools: Tools: Git, PostgreSQL, MongoDB, JWT, REST APIs, GitHub Actions, CI/CD

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 CI/CD pipeline with GitHub Actions for automated testing and deployment. Primary challenge: refactoring to separate business logic from presentation layer.

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

Full time science teacher September 2011 - May 2025

Along with teaching responsibilities, I collaborated with departmental teams of 10 or more, updating curricula and teaching resources affecting over one thousand students annually, helping to improve exam outcomes for all ability ranges. Being a teacher has also honed my 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.