JONATHAN WATSON

JUNIOR SOFTWARE ENGINEER

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Summary

Highly motivated Junior Software Engineer at Swiss Precision Diagnostics with experience in web development, mobile development, and machine learning. As a passionate lifelong learner and an excellent problem solver, I actively seek new challenges and continually strive to improve my software engineering skills. I am a team player who thrives in collaborative settings, consistently contributing to team success through clear communication, strategic thinking, and working towards finding the most pragmatic solution to complex problems.

Technical Skills

Languages: JavaScript | TypeScript | C#
Front-end: React | Next.js | HTML | CSS | Tailwind CSS
Back-end: SQL | Node.js
Testing: Jest | React Testing Library
Miscellaneous: Git | AGILE | Test Driven Development (TDD) | Microsoft Azure | .NET

Experience

Junior Software Engineer   Aug 2023 – Present
Swiss Precision Diagnostics, Bedford

- Assisted with developing a new flagship on-device machine learning powered mobile application for Android and iOS that uses a machine learning model in combination with a device's camera feed to identify objects within the frame.
- Optimised performance bottlenecks within the new mobile application, reducing the average inference time per frame from 150ms to 30ms, improving usability, and enhancing the overall user experience.
- Updated and maintained the front-end React web applications, which involved fixing defects, improving performance, and implementing new components and features.
- Integrated the new mobile application with existing back-end services.
- Implemented various new back-end REST API microservices using serverless Azure Functions.
- Focused on writing clean, reliable, and maintainable code to a high standard to ensure regulatory compliance within the medical devices industry.
- Worked within a cross-functional team responsible for gathering requirements, planning, designing, and implementing new features into the new mobile application.
- Collaborated with senior developers and the QA department to troubleshoot and resolve software defects.
- Assisted with training and deploying new machine learning models to improve the performance and accuracy of both the object detection model and the mobile application.

Trainee Software Engineer   Feb 2023 – May 2023
Northcoders, Manchester

- Industry-leading full-stack software engineering bootcamp with a strong emphasis on software development fundamentals and industry best practices.
- **Front-end project:** A news web application that displays fictional news stories retrieved from the back-end project. It was built using React, Tailwind CSS, React Router, and Create React App.
- **Back-end project**: A REST API that sends user data and news stories in JSON format. It was built using Express.js and PostgreSQL and tested using Jest/SuperTest.
- **Group project:** A bill-splitting mobile application built for Android and iOS using React Native, Firebase, Redux, and Tailwind CSS.

Medical Leave/Software Development Studies   Nov 2019 – Feb 2023

- Following a severe accident, I was no longer able to continue working and was left waiting a long time for the treatment I needed due to the pandemic.

- Decided to pursue a long-held interest in software development and aimed to transition to a new career in the field.
- Primarily focused on learning to code through self-study, structured online courses, and hands-on projects.
- After surgery and intense physiotherapy, I had recovered well enough and could return to full-time work.

Guitar Tutor/Sound Engineer   Dec 2016 – Nov 2019
Self-Employed, Bristol

- Worked with students across a range of diverse skill sets and created tailored learning plans and practice routines to help them achieve their goals.
- Offered various sound engineering services to clients, including recording, mixing, and mastering.
- Being self-employed meant being motivated, organised, resourceful, and a self-starter was essential.
- Managed many students, which required multitasking, prioritising, and managing time effectively.

Office Administrator   Apr 2014 – Dec 2016
NHS, Glastonbury

- Managed the reception area, which included general administrative tasks and support operations in a fast-paced hospital environment.

Education

MSc Computer Science   Nov 2025
University of York – York

BSc Biology   Jul 2009
Bath Spa University – Bath, UK

Software Engineering Bootcamp   May 2023
Northcoders – Manchester, UK

Projects

Personal Portfolio ([Site Link](), [Repository]())

A personal portfolio website built to demonstrate my web development skills and showcase my other projects.

- It features a sleek, modern design with rich animations and is optimised for desktop and mobile viewing.
- Built using TypeScript, React, Next.js, and Tailwind CSS.

E-Commerce Store ([Site Link](), [Repository]())

An e-commerce storefront that sells computer hardware. Users can browse various categories, view products based on real-world data and add/remove products from their basket.

- Passport.js handles user authentication, enabling users to easily create an account, update their personal information, and change their password.
- Session cookies keep users logged in, so they don't have to sign in every visit.
- Utilises a PostgreSQL database hosted on Amazon Web Services.
- Extensively tested using a combination of unit and integration tests with Jest and React Testing Library.
- Built using React, Next.js, Redux, Styled Components, PostgreSQL, and Prisma.

NC News ([Site Link](), [Repository]())

A news web application that displays fictional news articles retrieved from a custom REST API.

- Users can filter the various articles by selecting a topic.
- Articles can be sorted by date, comments, or likes.
- Each article has its own dedicated page where users can like the article and leave a comment.
- Built using React, Tailwind CSS, React Router, and Create React App.
- The back-end API was built using Express.js and PostgreSQL.