# Rob Barton

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## EXPERIENCE

**Software Developer,** My Learning Cloud – Fareham, Hampshire                    Sep 2024 – Present
- Deliver full-stack features (Angular/SCSS, Node.js, Express, MongoDB) in close collaboration with teammates within agile sprints, ensuring continuous delivery of value to end users.
- Responsible for an entire product repository, conducting code reviews, expanding test coverage, and overseeing deployments and server maintenance (Amazon Linux, AWS) to ensure reliable releases.
- Designed and engineered a scalable translation tool for educational courses, developing algorithms to quickly isolate translatable UI strings from large course files and implementing server-side caching to minimise API costs. Enabling on-the-fly translation into 100+ languages, expanding global accessibility.

**Software Developer,** Freelance & Career Break                    Apr 2022 – Sep 2024
- Designed and built a real-time digital menu system for a local popup restaurant using React, Node.js, Express and MongoDB, featuring an admin dashboard for live content management displayed on in-venue hardware
- Delivered custom webs solutions for clients  including a pool business site and portfolio platforms with a markdown-based CMS, allowing clients to publish and manage their own content without developer involvement.

**Systems Engineer & Software Developer,** Norwich University of the Arts – Norwich, Norfolk        Apr 2021 – Apr 2022
- Sole developer responsible for maintaining and extending the academic registry's systems, designing and building internal tools using JavaScript and SQL to streamline departmental workflows and student record management.
- Optimised SQL queries across the student record system, improving data retrieval performance by an average of 15% and enabling staff with timely access to accurate student data.
- Authored comprehensive technical documentation covering the full system architecture and development workflows, establishing the department's first structured knowledge base improving onboarding and system maintenance

## SKILLS

**Programming Languages:** Javascript / Typescript, Bash, SQL
**Frameworks & Libraries:**  Node, React, Angular, Express, Fastify, SCSS, Tailwind, Jest
**Tools & Technologies:** Git, MongoDB, Postgres, Linux / UNIX, AWS, Docker, Google Cloud

## PROJECTS

**MVF 7s Football Stats Dashboard** | TypeScript, React, PostgreSQL, Tailwind        github.com/robbatr0n/mvf-7aside
- Built and deployed a full-stack football analytics platform with regular weekly users, featuring live match tagging, player leaderboards, 20+ auto-calculated performance awards across attacking, defensive and goalkeeper categories as well as statistical breakdowns of each game.

**Real-time Ray Tracer** | C++, Nvidia CUDA, OpenGL        github.com/robbatr0n/cuda-real-time-ray-tracer
- Engineered a GPU-accelerated ray tracer capable of rendering complex 3D scenes in real time using CUDA parallelisation. Optimising memory management and rendering pipelines to support interactive scene navigation with high frame rates.
- Implemented advanced lighting effects including shadows, reflections, refractions, and specular highlights.

## EDUCATION

**University of East Anglia** – BSc in Computer Science                    Jun  2020