

Web developer/ Mechanical Engineer

Basem Mohamed

London, UK

Full-stack developer with 12+ years of engineering experience in the automotive industry. Skilled in JavaScript, jQuery, Bootstrap, SQL, Python, [Node.js](#), MySQL, Git, REST API's. Strong background in system level thinking, problem-solving and delivering complex technical projects. Recently completed a full-stack engineering program and built multiple production-quality applications.

Technical Skills

Languages: JavaScript, Python, SQL

Frontend: React, HTML, CSS, Bootstrap, jQuery, AJAX

Backend: [Node.js](#), PHP

Databases: PostgreSQL, MySQL

Tools: Git, GitHub, REST API's

Other: 3D CAD software expert - Siemens NX, Technical drawings

Experience

Company Directory

January 2026

PHP, MySQL, JavaScript(jQuery), Bootstrap

A full featured personnel management system with CRUD operations for organizing employees, departments and locations. Real time search across all personnel fields. Responsive design. Search and filter functionality. Interactive UI with modals. Duplicate prevention - email uniqueness, duplicate name warnings.

Gazetteer

November 2025

JavaScript, PHP, jQuery - AJAX requests, [Leaflet.js](#) - Interactive maps

An interactive map web-app where users can select a country and use various features to learn about the chosen country. Geolocation detection. Responsive design for mobile and desktop. Satellite and Street map views. Layer control for toggling landmarks.

Creating AI applications using RAG

August 2025, Codecademy, Course

Build a RAG app with Streamlit, ChromaDB and OpenAI

- Learn to give LLM retrieval abilities with RAG
- Built a RAG app that can search documents and pdfs
- Explored RAG Techniques

Mastering Generative AI & agents For Developers

August 2025, Codecademy, Bootcamp

GenAI app development, LangChain & LangGraph, RAG systems, Prompt Engineering, Multi-agent design, LLM automation, Model fine-tuning, AI deployment.

- Intro to GenAI, Machine Learning and Large Language Models
- LLM fundamentals: Architecture to Implementation
- LangChain Essentials + Real-World Dev Tools
- Project Build - Developer Agents
- RAG Deep Dive
- Project Build - Chatbot with RAG
- Intro to Agent
- Lang Graph & Project Build - Multi-Agent Systems

- Lang Graph & MCP(Model Context Protocol)

Professional Experience

Senior Design Engineer

2012 - 2024

Aston Martin, Polestar, Arrival

- Engineered numerous automotive components and systems, ensuring compliance with industry standards and regulations on both electrically powered and internal combustion engines.
- Worked in teams of various sizes, from small groups to large cross-functional teams to achieve project goals.
- Managed and mentored team members and interns, providing guidance and support to ensure successful project outcomes.
- Collaborated with suppliers and stakeholders to deliver technical solutions.
- Produced technical drawings, presentations and solutions as part of the design and development process.
- Worked primarily with Siemens NX CAD software.

Education

Codecademy / Full-stack Engineer

2024 - 2025

Web Development foundations, Building Interactive Websites, Front-End Development, Backend Development.

HTML, CSS, JavaScript, Git & GitHub, React, Redux, Node.js, Express.js, SQL, PostgreSQL, Web Security, Data Structures

University of Birmingham / Mechanical Engineering BEng

2009 - 2012, Birmingham, UK

Completed a final year project on the effect of a diffuser on the performance and aerodynamics of a single seat race car as part of the University of Birmingham Formula Student team, using computational fluid dynamics software - Ansys.

- Graduated with Second-Class Honours (2:1)