A Software Engineer who is very keen to have the opportunity to interview for the Senior Data Scientist Role at the bbc.

CHRISTOPHER COOPER

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PROJECTS/EXPERIENCE

Elite Medics

March 2020 – December 2023

- Developed and presented tailored lesson plans for diverse group sizes, ranging from large lectures (200+) to small-group tutorials (30+).
- Focused on exam-oriented strategies and core subject knowledge for KS3–A-Level Science and Mathematics.
- Guided aspiring medical students by connecting theoretical concepts to practical, real-world applications.
- Created interactive learning materials and activities to enhance student engagement and comprehension.

University of Liverpool Motorsport

September 2020 – July 2022

- Developed battery capacity prediction software using Python and advanced algorithms to forecast energy requirements for endurance events, influencing major decisions on battery design and budget allocation.
- Applied systems engineering principles as manufacturing manager, producing comprehensive work breakdown structures and network diagrams for full vehicle manufacture and material procurement.
- Created complete vehicle manufacturing architecture plan using PlantUML modeling, establishing clear production workflows and system dependencies for scalable automotive manufacturing processes.
- Led the design and manufacture of a faceted carbon fibre monocoque chassis, including materials testing and validation to meet stringent automotive safety standards and regulatory compliance.
- Produced the complete mechanical structure architecture for the entire vehicle, meeting tight manufacturing deadlines while coordinating with multiple engineering teams and external suppliers.

Jaguar Land Rover - Software Engineer in brakes refinement

February 2023 – September 2023

- Architectured and delivered a Python-based image processing software using OpenCV, successfully providing a method of validation of brake pad pressure distributions in finite element models.
- Created and maintained detailed software architecture in plantUML.
- Delivered a command-line, object-oriented software package that integrated seamlessly into existing engineering workflows and significantly improved the accuracy and efficiency of brake system validation.
- Significantly enhanced the software skills of other team members, introducing the team to object-oriented programming, image processing, software quality standards and the benefits and drawbacks of using Python over MATLAB.
- Produced many other smaller user experience software tools, including graphical user interfaces to improve engineering workflows to better understand and analyse key data sets for influential decisions on brake design.

SmarterCV - Personal Project

July 2023 – Present

- smartercv.com
- Designed and architected a scalable, data-driven web-based application platform, supporting an initial user base of 200.
- Developed modular, enterprise-grade web solutions using Django (Python) and SQL-based relational databases, with a focus on maintainability, performance, and security.
- Implemented secure authentication, user management, and analytics dashboards, leveraging CI/CD pipelines and Git for automated testing and deployment.
- Front-end design using HTML, CSS and Javascript.
- Implemented factorial design (A/B) marketing to predict which attributes (age, job role, advert type, etc) resulted in the highest click through rate to the site.

Rolls-Royce - Additional project. September 2024 – September 2024

- Designed and delivered a two-week Python training course for new software apprentices at Rolls-Royce, at the request of the heads of software and software quality.
- Created a hands-on project using a large, fabricated speed-time dataset, guiding apprentices through data import, visualization, linear interpolation for missing data, and anomaly detection using Bollinger bands.
- Led participants in building simple physics models to calculate reactor parameters (power, acceleration, energy consumption) from the processed data.
- Guided the group in developing a schematic of a pressurised water reactor, where system variables (valves, control rods, temperatures, flow rates) responded to calculated power requirements.
- Taught practical Python skills, including setting up development environments (VS Code, conda), code refactoring, software quality, best practices, and object-oriented programming.

LS Plumb Website December 2024 – January 2025

- Engineered a robust backend system using Django and SQL-based databases, managing data integrity.
- Developed a responsive, cross-platform front-end with HTML, CSS, and JavaScript, delivering a seamless user experience across devices and browsers.
- Implemented automated time-tracking and version control workflows using Git and GitHub, supporting collaborative development and continuous integration.
- Integrated SEO and analytics best practices to enhance platform visibility and data-driven decision making.
- Managed DNS and domain routing via AWS Route53, ensuring high availability and reliable access for end users.

TECHNOLOGY/SPECIALISATIONS

Technology: JavaScript; Linux; MATLAB; OpenCV; Pytest; Python; SCADE (ADA); SEO

Specialisations: FEA; Finite Element Software; Fluid Mechanics; Network Diagrams; Physics Models; Time Series Analysis

EDUCATION

University of Liverpool September 2018 – June 2022

Masters in Mechanical Engineering

- First Class
- I did formula student alongside my degree for two years where we manufactured a single seat EV race car. I was the manufacturing manager and product owner for a carbon fibre monocoque chassis.