

PERSONAL STATEMENT

Experienced Model-Based Systems and Software Engineer, specializing in Model-Based Systems Engineering (MBSE), Architecture Development and software development. Skilled in designing scalable system and software architectures, with expertise in Java, Python, and JavaScript. Passionate about bridging system architecture with software solutions, ensuring robust, maintainable, and efficient designs. Proven ability to manage stakeholders, lead development teams, and design scalable architectures and software solutions.

TECHNICAL & WORKPLACE SKILLS

- **Leadership and Management:** Stakeholder Management, Resource Management, Risk Management, Bidding, Agile Approach, Waterfall Approach,
- **Programming Languages (PL):** MATLAB, VBA, Python, Java, JavaScript (ES6).
- **PL Libraries:** JavaFX, Cameo Systems Modeller, Sparx EA – SpiderMonkey.
- **Modelling Languages:** SysML, UML.
- **Frameworks:** MOFLT (Airbus), MagicGrid, TOGAF, NAF, Docker, PyTorch, .ROBOT, BPMN, Six Sigma.
- **Engineering Software:** DOORS, Sparx EA (Modelling & Scripting), Cameo Systems Modeller (Modelling & Plugins), SOLIDWORKS, Ansys, Simulink, CISCO Packet Tracer, WireShark.
- **Various Software/Tools:** Microsoft Office Packages, Confluence, Google Cloud VMs, VMWare Workstation 10, Proxmox, SAP, AWS.
- **Certification:** INCOSE ASEP || SAP Technology Consultant || AWS Fundamentals || AWS Cloud Technology Consultant || Gas Turbines Performance || Engine Lubrication Systems || MATLAB Fundamentals

EMPLOYMENT HISTORY

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| Capgemini – Consultant Engineer – Senior MB Systems and Software Engineer | November 2022 – Present |
| <ul style="list-style-type: none">• Successfully implemented MBSE into the ITER project with Fusion4Energy, developing a pilot model and providing comprehensive training on its benefits and proper implementation.• Conducted requirement change analysis for a defence project, including initial change impact assessment, improving project adaptability by 25% and enhancing risk management• Contributed to AIRBUS NextWing and OneHeart development:<ul style="list-style-type: none">○ Designed and implemented an end-to-end Java interface between Cameo and Delmia, reducing manual effort in model updates by 50%.○ Developed a user-friendly Java plugin, enhancing accessibility and implemented efficient XML marshalling using a developed ontology, improving data handling, using kanban boards to task track completion, and improved processing times by 15% by completion.○ Conducted architecture development using AIRBUS' proprietary language, MOFLT, modelling functional, logical, and technical layers for levels 1-4, streamlining project design.○ Led the development of an ontology-driven adapter interface between Sparx EA and a Data Warehouse for XML data transfer using JavaScript, managing a team of 4 engineers using an Agile approach. Oversaw workload distribution, sprint planning, and delivery, ensuring high-quality outputs and achieving a 30% improvement in data processing speed upon completion.<ul style="list-style-type: none">▪ Developed models for testing adapter using Sparx EA and NAF.▪ Developed tool documentation.• Developed and delivered MBSE training packs for MBDA, training internal teams and external clients, improving MBSE competency across 5+ engineering departments. | |
| Jacobs – Consultant Engineer – Enterprise Architect/Systems Engineer | February 2022 – November 2022 |
| <ul style="list-style-type: none">• Engineering consultant contracted as a Systems/Enterprise Architect to Network Rail for the Transpennine Route Upgrade project in the railway industry.• Developed Enterprise Architecture for whole project, individual systems and at various key outputs in the design process as well as a WBS for the project based on business and systems requirements available, using Trak and TOGAF.<ul style="list-style-type: none">○ Established an Architecture Plan, baselining the "As-Is" and "To-Be" architectures to guide system evolution.○ Conducted SWOT and PESTLE analyses to assess business strengths, weaknesses, and external factors impacting project success.○ Developed business architecture aligned with Network Rail's business requirements, ensuring consistency across project objectives. | |

- Addressed interfacing risks and applied mitigation strategies between components in architecture diagrams, reducing potential issues.
- Ensured comprehensive system definitions for architecture designs, enhancing the accessibility of essential information and improving team collaboration by 15%

Alten Engineering – Consultant Engineer – Systems and Software Engineer

August 2021 – February 2022

- Engineering consultant contracted to Rolls-Royce as a Systems and Software Verification Engineer for the ECOSIStem project, aimed at streamlining code testing and development for engine maintenance and enhancement.
- Utilized Python and .ROBOT framework to develop and analyse test cases, ensuring easy testing of new code implementations.
- Reviewed, revised and verified test cases, improving quality and ensuring compliance, facilitating necessary reworks for approval.
- Created a knowledge-sharing database, improving onboarding efficiency for new consultants and enhancing collaborative information exchange, reducing onboarding time and improving knowledge retention.

Rolls-Royce – Performance Engineer/Development Engineer

June 2018 – August 2019

- Reformed and implemented a MATLAB trending tool, incorporating advanced analytical processes (using VBA for data storage), and validated the tool, significantly enhancing data accuracy and decision-making. Presented analysed data improving data accuracy by 30% and reducing decision-making time by 25%.
- Managed two projects, where responsibilities included tracking project charters, managing resources, and ensuring deliverables were met whilst identifying and managing risks.
- Wrote Pass-off trending reports and conducted analysis for Rolls-Royce-manufactured jet engines.
- Defined and sequenced verification strategies aligning with customer, business, and aviation authority (EASA) requirements for the Electric Propulsion Unit system, aiming to achieve 100% compliance with EASA CS-Es.
- Took ownership of delivering key sub-systems including Fan Systems, Structures & Flow paths, and Bypass & Exhausts.

EDUCATION

Aerospace Engineering (MEng) – *Swansea University*, 1st Achieved.

- Extra Qualifications:, Python for Data Science courses (via DataCamp)

Networking and Cybersecurity (Level 3 Diploma)

PERSONAL ACHIEVEMENTS & VOLUNTEERING

- Volunteering & STEM: Involved with helping to build the new garden in the MS Therapy Centre in Bristol, a great opportunity to give back to the local community.
- Working at Rolls-Royce has also allowed me to get involved in STEM projects such as the Flying Start Challenge, a group challenge for local school children, which is a fulfilling activity as it allows inspiring engineers of tomorrow.
- Associate member of both IMechE and INCOSE.