ENOCH BALOGUN

MECHANICAL ENGINEERING / ENERGY SYSTEMS / TECHNICAL RESEARCH

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EDUCATION

BEng Mechanical Engineering | Cardiff University 2025–2028 (expected)

First-year results: Engineering Maths & Computation **92%**; Fundamentals of Mechanical Engineering **75%**; Applied Design & Practice **71%**.

EXPERIENCE

Project Development Support | Rutherford Digital Solutions Limited 2026–present

- Support planning for a proposed 6 MMSCFD compressed natural gas facility, reviewing gas supply, metering, compression, storage and equipment interfaces.
- Analyse engineering information and prepare technical documentation for project development discussions.

Student Experience Partner | Cardiff University Oct 2026–present

- Selected for paid student-staff partnership work; contribute to project meetings, student-experience research planning and agreed improvement tasks.

Green Impact Project Assistant | Cardiff University 2026

- Reviewed sustainability evidence and tracked improvement actions for a university team.

SELECTED ENGINEERING AND RESEARCH PROJECTS

Gearbox Design & Optimisation | Cardiff University 2026–present

- Evaluate gear ratios, gear dimensions and module selection using engineering calculations and Excel-based checks; compare options against design and manufacturing constraints.

Rocket Recovery Avionics Bay CAD | Cardiff Rocket Lab 2026

- Created a parametric ten-component CAD concept with assembled and exploded views; documented fit and clearance assumptions requiring confirmation before integration.

Power Systems & Energy Data | Python research 2026

- Built a Power Grid Model proof of concept comparing weighted least squares with Huber-IRLS AC state estimation under inaccurate measurements; documented a case where the method fell short.
- Investigated gas-demand calculations in Open-TYNDP, checked modelling assumptions against source spreadsheets and added focused validation tests.

Mechanical Design & Laboratory Analysis | Cardiff University 2025–2026

- Developed and assessed robotic-arm concepts in a 10-week team project; analysed pitot-static airflow and beam-bending measurements against theory.

TECHNICAL COMMUNICATION

Selected Presenter, IOM3 Young Persons' Lecture Competition (Feb 2026). Presented "Why Energy Delivery Matters More Than Energy Generation", explaining grid constraints and reliability to a non-specialist audience.

SKILLS

Engineering: SolidWorks, CAD, mechanical design, gearbox sizing, experimental measurement, technical documentation.
Programming & analysis: Python, MATLAB, TypeScript/JavaScript, Excel, Git/GitHub, data validation, technical research and software testing.