

Gabriel Barale

Mechanical Engineer and Postgraduate Researcher

London, United Kingdom | gabrielbgfalcao@gmail.com | 07515 459505

EDUCATION

London South Bank University

MSc Mechanical Engineering: (Predicted) Distinction (2025-2026)

Relevant Coursework: Engineering Design, Analysis and Manufacture, Robotics, Technical Research and Professional Skills, Advanced Solid Mechanics and Dynamics, Advanced Thermofluids and Energy Analysis, Technology Evaluation and Commercialisation, MSc Project (Design and Manufacture of Mechanically Intelligent Foldable Systems).

London South Bank University

BEng (Hons) Mechanical Engineering: 1st Class (2022-2025)

Relevant Coursework: Thermofluids, Thermodynamics, Dynamics, Mechatronics, Advanced Engineering Mathematics and Modelling, Solid Mechanics, FEA, CFD, CAD Design, Control Systems Modelling, Final Year Project (Bioinspired Design of Pressure-Controlled Deployable Structures).

WORK EXPERIENCE

London South Bank University

Mechanical Intelligence Research Group (MILAB) Postgraduate Researcher (2024 – Present)

- Led the design, modelling, and testing of prototypes and fixtures using advanced CAD (Fusion 360/Rhino) and FEA/CFD (ABAQUS/ANSYS), culminating in the fabrication of technical components via 3D Printing and laser cutting.
- Successfully synthesised complex scientific data to define research methodologies and experimental protocols, driving new hypotheses across thermofluids, biomimetics, and biomedical engineering projects, increasing project delivery by 10%.
- Provided supervision to multiple BEng, MSc, MEng, MRes and PhD students, applying hands-on knowledge in mechatronics design and programming (C++/MATLAB/Python), allowing successful project delivery and promoting the laboratory through key external events.

London South Bank University

Hourly Paid Lecturer, Solid Mechanics and Materials/ Engineering Design (2024 – Present)

- Prepared and taught technical laboratory sessions and workshops to undergraduate students in solid mechanics and materials.
- Assisted main lecturer on lesson delivery and provided student support on coursework and exam preparation.

Self-employed

Secondary School and Sixth Form Tutor

- Cultivated independent learning in students by simplifying complex Mathematics/Science concepts and providing exam preparation support.
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RELEVANT SKILLS

- Circuits: Electrical Circuit Design and Manufacture.
 - Manufacturing: 3D Printing (SLA, FDM), Metal and Wood Working, CNC and Heavy Machinery.
 - Mechanical: CAD, Parametric Modelling (Fusion 360, Rhino, Grasshopper).
 - Simulations: CFD, FEA, Machine Learning for data analysis.
 - Workshop Tools: Hand Tools, Saws, Sanders, Grinders, Drills and others.
 - Programming: Python, C++ and MATLAB.
 - Languages: Portuguese (Native), English (Advanced).
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AWARDS & ADDITIONAL DETAILS

Awards: Jack Petchey Outstanding Achiever Award (2018), BEng Mechanical Engineering Integrity Award LSBU (2024), AI and Machine Learning Award LSBU (2025), IVCS Certificate of Chaplain (2025).

Volunteering: The Father's House Church, Inside Project, Christian Engineers in Development (CED).

Interests: Photography, Music, Literature, Art, Cooking, Theatre, Theology, Philosophy, Social and Natural Sciences.