

Gabriel B. G. Falcão

Mechanical Engineer and Research Assistant

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PERSONAL STATEMENT

Highly motivated Mechanical Engineer and Research Assistant (1st Class BEng), currently enrolled in a MSc Mechanical Engineering program that leverages expertise in CAD, FEA, CFD, advanced mathematics, classical/applied physics, and programming to drive innovation in technology, manufacturing and research.

EDUCATION

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).

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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WORK EXPERIENCE

London South Bank University

Mechanical Intelligence Research Group (MILAB) Research Assistant (2024 – Present)

- Synthesised complex data from scientific journals to formulate research methodologies and deliver weekly progress reports.
 - Designed, modelled, and tested prototypes and fixtures using CAD (Fusion 360/Rhino/Grasshopper).
 - Fabricated technical components using 3D Printing (SLA, FDM), laser-cutting, and workshop machinery, supporting multiple projects across the lab.
 - Advised multiple students (BEng/MSc/PhD) on projects, applying expertise in FEA/CFD (ABAQUS/ANSYS), mechatronics design, and programming (C++/MATLAB/Python).
 - Collaborated with doctors, laboratory directors, and professors on multidisciplinary projects, including thermofluids, biomimetics, robotics, and biomedical engineering.
 - Developed and executed experimental protocols, applying technical knowledge to develop new hypotheses and research approaches.
 - Prepared and taught technical laboratory sessions and workshops to undergraduate students.
 - Participated in competitions, exhibitions, conferences and events to promote our laboratory, search for research opportunities and networking.
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Self-employed

Secondary and Sixth Form Tutor

Cultivated independent learning in students by simplifying complex Mathematics/Science concepts and providing out-of-hours exam support.

AWARDS & ADDITIONAL DETAILS

Awards: Jack Petchey Award (2018), BEng Mechanical Engineering Integrity Award LSBU (2024), AI and Machine Learning Award LSBU (2025).

Volunteering: The Father's House Church (Media Crew, Children's Ministry Teacher, Translator, Evangelist/Social Services Volunteer and Worship Ministry).

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