

Ali Bachir

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Introduction

Driven and motivated Mechanical Engineering BEng (Hons) graduate with excellent analytical and problem-solving abilities. Skilled in CAD software and Finite Element Analysis, with a solid foundation in thermodynamics, fluid mechanics, and material science. Demonstrated success in collaborative team environments and a passion for creating innovative solutions to complex engineering challenges. Eager to apply my expertise and experience to tackle real-world engineering problems.

Education

Bachelor's in Mechanical Engineering (Hons)
City University of London | London, United Kingdom

August 2024

- Relevant Courses: Thermodynamics and fluid mechanics, Management, Design engineering, Mechatronics, and Heat transfer.
- Graduated with 2:1

Relevant Experience

Green Living ARGOClima | London, UK
Mechanical Engineer – Building services

September 2021 – Current

- Managed all aspects of building operations, ensuring compliance with Health & Safety regulations, including fire life safety, smoke control, and environmental policies.
- Monitored performance of mechanical, electrical, HVAC systems, fire life safety, cooling towers, and water circulation systems, addressing any issues promptly.
- Coordinated with external contractors for maintenance and repairs, ensuring all work adhered to current safety and regulatory standards.
- Planned and implemented preventative maintenance programs, including critical systems like HVAC, electrical, fire safety, and water systems, ensuring uninterrupted building operation.
- Actively monitored Building Management System (BMS) for alarms, troubleshooting faults in fire life safety, smoke control, and water systems, and ensuring compliance with safety codes.

Smart Acoustic Metamaterial | London, UK

September 2023 – May 2024

- **Final Year Dissertation Project:** Mechanical Engineering at City, University of London. Focused on optimizing fluid-structure interactions to enhance acoustic damping. The project involved analyzing the impact of varying fluid densities on discharge coefficients in constricted flows. By conducting a series of CFD simulations, it was determined that specific density conditions led to a lower discharge coefficient (Cd), thereby enhancing flow obstruction, and increasing energy dissipation. This research, which earned a 71% mark, contributed valuable insights into the feasibility of such systems as the project went into a publication stage.

Wind Turbine Design | London, UK

September 2023 – May 2024

- As part of a BEng in Mechanical Engineering at City, University of London, a passive pitching mechanism was designed for a wind turbine to achieve a steady output of 5kW. Using SolidWorks, a fully functional, 3D-printable passive pitch mechanism was developed to adjust for varying wind speeds, specifically for wind tunnel testing. While the blade design was handled by another team member, the contribution ensured the turbine met its performance objectives. The project successfully demonstrated effective wind speed adjustment and reliable power output.

IMechE Challenge | London, UK

Academic Year 2019 – 2020

- Collaborated in a group project to build a device capable of climbing a 2.2m long pipe, designed to complete the task with minimum duration and two 5-second stops at the midpoint.
- Responsible for performing theoretical calculations to determine optimal device dimensions and geometry and designing the set using CAD.
- The device won regional competitions and qualified for the finals, demonstrating its effectiveness and innovative design.

Additional Information

Languages: English (Fluent); Arabic (Native).

Technical Skills: Proficient in MS Word, Excel, and a strong competency in Solidworks.