

# Ayomide AKINBOBOLA

[ayomideakinbobola@gmail.com](mailto:ayomideakinbobola@gmail.com), (24) [Ayomide Akinbobola | LinkedIn](#)

## Education

**University of Sheffield, United Kingdom** (09/2023 – 07/2028) – (IMechE accredited)

MEng Mechanical Engineering with an Industrial Placement year (achieving a 1<sup>st</sup> in all modules)

### Modules:

Mechanics of Deformable Solids (76%), Dynamics of Structures and Machines (78%), Fluids and Thermodynamics (73%), Computational and Numerical Methods (84%)

**Bacup and Rawtenstall Grammar School Sixth Form** (09/2018 - 07/2022)

A-Level: Maths – A, Biology – A, Physics – B

11 GCSE grades 6 – 8, including Mathematics – 8, Physics – 8, English – 7

## SKILLS

- **Lab trained:** Experienced with laboratory procedures and techniques, laboratory report writing, and scientific analysis, such as using a Shimadzu machine for tensile testing. Hands-on Experience with tools such as lathes, CNC machines and laser cutting.
- **Software Proficiency (IT skills):** CAD tools (Fusion 360, AutoCAD) and coding (Python, MATLAB, C++) for simulation building and data analysis
- **Finite Element Analysis (FEA):** Analysed materials under stress, understanding critical properties such as yield stresses, which can contribute to strength and durability for components such as a reaching aid.
- **Data Analysis and Simulation:** Created simulations for analytical purposes, such as a water bottle rocket trajectory in MATLAB under different parameters, as well as Ansys for CFD.
- **Teamwork:** Collaborated in a multidisciplinary team during 'Engineering your Hired!' for a medical engineering application.
- **Numerical and Engineering Methods:** Created Models and applied dynamics, fluids and heat transfer principles for engineering projects.

## ENGINEERING-RELATED EXPERIENCE

### Projects:

#### ***Design a Gearbox for an EAPC (2025)***

- **Designed** and modelled a three-stage 16:1 gear reduction system, balancing material limitations (3mm acrylic sheets) with performance requirements (bike must not travel over 25mph) to deliver reliability under sustained loads
- **Demonstrated** analytical problem-solving by conducting an FEA Analysis on the gears in a buckling failure mode to verify the safety of our design.
- **Adapted and optimised** motor-control code to regulate power delivery and maximise performance; when the first iteration caused gearbox failure, independently led the redesign and implementation of working code.
- **Collaborated** in a diverse team in designing, testing and iterating improvements to the gearbox,
- **Took ownership** of the project outcome by proactively organising meetings, recording notes and regulating communication, resulting in our group achieving a top 10% distance performance on test day.

#### **Engineering your hired! – Prosthetic devices (2025)**

- **Tasked** with designing an innovative method or procedure to protect patients from infection following total hip or knee replacements.
- **Researched** antimicrobial coatings for orthopaedic implants, applying an analytical and inquisitive approach to evaluate biocompatibility, sustainability, and cost effectiveness.
- **Took ownership of** developing an inclusivity policy, ensuring the solution was designed for diverse patient needs and equitable access across healthcare systems.
- **Collaborated** in a multidisciplinary team of bioengineering, mechanical, and electronic engineers, integrating knowledge to design an implantable biosensor system for early infection detection
- **Challenged myself** to work outside my usual domain of mechanical engineering, showing resilience and determination to adapt quickly to healthcare innovation and technologies, resulting in an idea which could reduce revision surgeries by 30-50%.

#### **Design of a Water Bottle Rocket Launcher (2024)**

- **Tasked** with designing a water bottle rocket launcher for precise and reliable launches into a 10m landing zone, meeting safety criteria and a self-written specification.
- **Simulated and modelled** the rocket trajectory using MATLAB, iterating parameters such as pressure, water volume, and nozzle size to optimise distance and accuracy
- **Analysed simulation outputs** in comparison with test data, refining the model and adjusting parameters, strengthening attention to detail in validation and safety
- **Collaborated** with CAD design teammates and got involved in manufacturing, translating simulation findings and test data into a stable, safe launcher design.
- **Achieved** successful launches within a 10m radius, securing maximum marks and demonstrating engineering for performance.

#### **Programmes**

- Part of the GEEP (Graduate Engineering Engagement Programme) by the 'Royal Academy of Engineering'.

### **EMPLOYMENT**

#### **MANCHESTER CITY FOOTBALL CLUB (24/08/22 - present)**

##### **WAITER (Customer service)**

- Demonstrate genuine hospitality while greeting and establishing rapport with guests
- Developed time-checking skills when making sure guests were served before and during the game
- Worked under pressure during peak/busy periods such as halftime.

#### **WHITTAKER MOSS PRIMARY SCHOOL (19/03/2019)**

##### **TEACHING ASSISTANT**

- Developed analytical skills, updating reports and observations to chart student progress and attainment levels.
- Developed teamwork skills supporting and coordinating with department leaders in producing effective lesson plans
- Adapted communication style based on age and background to aid students' learning and wellbeing

### **EXTRACURRICULAR ACTIVITIES & INTERESTS**

**AI Automations:** Freelancing, creating AI workflows for automations

**TUTORING:** Private tutor

**BOXING:** Part of the boxing society at the University.

**REFERENCES AVAILABLE ON REQUEST.**