Ahmed Mishqat

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EDUCATION

The University of Manchester | BEng in Mechanical Engineering | *First-class Honours (First year)* **(2024-Present)**

- **Honours and Awards:** Bicentenary Global Futures Scholarship Recipient - The University of Manchester's highest merit-based award for international undergraduates.
- **Relevant Coursework:** Fluid Mechanics, Mechanical Eng. Systems (ICE & Jet Engines), Structures, Manufacturing Engineering, Project Management, Materials

Mastermind English Medium School | CAIE A Levels |*Physics (A*), Chemistry (A*), Maths (A*)* **(2022-2024)**

- **Honours and Awards**: Daily Star Award for Outstanding Academic Achievements, Multiple Intra-School Olympiads and Sports Awards
- **Activities**: Mathematics Club President, Photographer, Highschool Badminton Champion, Volunteer

SKILLS

Workshop Practice (Mechanical): Bench work, Lathe and Milling Machines, Welding (MIG, TIG), 3D Printing, Assembly, Tolerances

Computer-Aided Design (SolidWorks & Fusion360): Part & Assembly Modelling, Engineering Drawing, Prototyping and Iteration, Design-for-Manufacture, Material Performance & Stress Analysis

Programming: Python, GUI Development (Tkinter), Algorithm, Problem-Solving, Engineering Calculations, Arduino

Robotics & Mechatronics: Motor & Servo Control, Wireless Communication (Bluetooth), Embedded Systems, Mechanism Prototyping

Project & Teamwork: Rapid Prototyping, Troubleshooting, High-Pressure Problem Solving, Collaboration, Documentation & Presentation

Others: Communication, Leadership, Video Editing, Fast Typing, Creative Writing, Storytelling, Canva, Microsoft Office

PROJECTS

Robotic Arm Poker Dealer, RoboSoc, UoM **(Spring, 2025)**

- **Task:** Designed and developed an AI-driven robotic arm prototype powered by servo motors to automate card and chip dealing, working alongside teammates to refine design concepts.
- **Action:** Modelled and engineered structural components in SolidWorks, 3D-printed custom parts, and assembled hardware through iterative testing cycles with input from collaborators.
- **Result:** Strengthened skills in CAD, rapid prototyping, and systems integration, while developing an engineering mindset grounded in problem-solving, iteration, and design-for-manufacture.

DMT Car Project, UoM **(Fall, 2024)**

- **Task:** Designed & built gravity-propelled car powered by falling weight to traverse 5m track under strict material & component constraints.
- **Action:** Programmed Python tools for design calculations, modelled parts & assemblies in SolidWorks, and produced CAD drawings while coordinating with team contributions.
- **Result:** Final prototype resulted in a one of the fastest finish times (~3s). Also strengthened CAD proficiency, design-for-manufacture awareness, and teamwork skills while gaining practical insight into the gap between theoretical design and real-world prototyping.

Hack-A-Bot: Toxic Waste Disposal Rover Challenge, RoboSoc, UoM **(Spring, 2025)**

- **Task:** Designed and built a robot in 24 hours to transport a sensor-equipped "toxic waste" barrel across an obstacle course, contributing ideas and solutions in a fast-paced team setting.
- **Action**: Built a stable DC-motor chassis, integrated Arduino Uno with Bluetooth for wireless control, and developed servo-powered claws with a lifting system using custom SolidWorks parts, adapting quickly under extreme time constraint.
- **Result:** Delivered a functional rover that featured an innovative claw-and-elevator system. Also gained experience in robotics integration, rapid prototyping, and high-pressure teamwork.

Programming Projects **(2020-Present)**

- **Task:** Explore programming concepts by building practical Python applications to strengthen problem-solving and software dev skills.
- **Action:** Developed multiple GUI-based tools: a scientific calculator using NumPy, a password generator/manager, and a WordPad-style text editor using Tkinter for interface design. Continued sharpening coding skills through algorithm practice on Codewars.
- **Result:** Gained hands-on experience in Python, GUI development, and algorithmic thinking, demonstrating the ability to learn independently and apply programming to functional projects.

EXTRA-CURRICULAR AND LEADERSHIP ACTIVITIES

President, Mastermind English Medium School Mathematics Club **(2023-2024)**

- Led the mathematics club by planning and directing Highschool Math-Fest; an annual event with 70+ volunteers and 1000+ participants.
- Oversaw operations and logistics, resolving unforeseen resource and scheduling conflicts through effective problem-solving under pressure.

Content Creator, YouTube **(2024-Present)**

- Curate & edit engaging book review videos by showcasing in-depth analysis.
- Developed video production & storytelling skill to enhance viewer engagement and channel growth.