# Michael Le Roux

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## EDUCATION

**Columbia University | GPA: 3.82, Dean's List** — **New York City, NY**
*B.S. Mechanical Engineering, Minor in Aerospace Engineering* — Expected May 2029
*Relevant Coursework: Mechanics, Intro to Applied Math, Multv. Calc, Intro to EE, Physics Mech/E&M/Waves*

**King's College Wimbledon** — **London, UK**
*A-Levels: Maths: A*; Further Maths: A*; Physics: A*; Computer Science: A* — Graduated May 2025
*SAT: 1510/1600*
*ACT: 35/36 (Composite)*

**Brown University Summer Program** — **Providence, RI**
*Topics in CAD: FEA, Motion & Complex Assemblies* — Summer 2024

## ENGINEERING EXPERIENCE

**Curious Cardinals** — **Remote**
*Engineering Project Mentor* — May 2026 – Present
- Mentor three students across grades 4 to 12 on engineering projects, from design review and prototyping to project scoping, with milestone-based plans tailored to each student's level.
- Past/Present Projects: rotational number shadow display, tennis ball collecting robot, live AI swimming coach.

**Formula SAE - Columbia University Team** — **New York City, NY**
*Aerodynamics Subteam* — September 2026 – Present
- Supporting the design and CFD validation of the car's wings and undertray to improve downward force.
- Rebuilt the car's wheel geometry in SolidWorks to match real tire and rim dimensions, improving the accuracy of CFD simulations of the wings and undertray.

**Columbia University Robotics Club** — **New York City, NY**
*AQUAS Team* — September 2026 – Present
- Contributing to the development of an autonomous robot that mitigates harmful algal blooms across local New York's waterways.

**Private Tutor** — **London, UK / Remote**
*Self-Employed* — 2024 – Present
- Tutor three students in mathematics, and the sciences to students aged 9–17; adapted to neurodiversity.

**Pipe-Climbing Robot Competition** — **London, UK**
*Team Member (Team of 4)* — September 2024 – April 2025
- Produced CAD designs; supported assembly; made force calculations; iteratively tested the robot.
- Internal competition ran by King's College Wimbledon, based on an IMechE Design Challenge brief in which a robot must climb a 2.5m long, 0.105m diameter vertical pipe under the load of a 0.265kg chain.

**Project Management International (PMI)** — **Buchanan, Liberia**
*Geotechnical Engineering Intern* — February 2024
- Supported a 14.5m borehole investigation for an ArcelorMittal Port reconstruction, drilling through alluvial sands, clay, and weather gneiss and collecting soil and rock core samples.
- Performed Standard Penetration Tests and point-load tests, logging strata and recording data used to assess soil and rock strength.

**King's College Wimbledon Formula 24 Competition Team** — **London, UK**
*Team Member (Team of 6)* — 2022
- Selected by faculty for the school's Formula 24 team; collaborated on the design, assembly, and racing of the car

## SKILLS & ACTIVITIES

**Technical Skills:** CAD & Analysis: SolidWorks, Onshape, Fusion 360, complex assemblies, FEA, motion studies, engineering drawings. Manufacturing: 3D Printing, Laser Cutting, CNC Mill, CNC Lathe, Soldering. Programming & Data: Python, Microsoft Office (Word, Excel, PowerPoint), basic: C++, SQL, HTML/CSS, JavaScript. Testing & Prototyping: Standard penetration testing, point-load rock testing, mechanical design & prototyping, project documentation

**Rugby:** Lifelong competitive rugby player, starting for the 1st XV at King's College Wimbledon, Wimbledon RFC, and Columbia University. Elected Recruitment Chair for Columbia's team; led recruitment efforts resulting in a 28% increase in squad size.

**Student Fight Night:** Developing a student charity boxing event; exploring partnerships with gyms, venues, sponsors and sanctioning bodies while planning event logistics and safety requirements.

**Community Service:** Supported students in building props for a community production (2025), tutored GCSE Mathematics to under-privileged students (2024), taught Physical Education to third graders (2023).

**Phi Gamma Delta:** Elected as Spring 2026 recruitment chair; managed a $7,000 budget across 5 events.

**Other Experience:** Summer 2026: Worked as a bartender for the Rose and Crown Wimbledon; Spring 2026: Worked part time at Mink Padel Club; Summer 2025: Worked as a barback during the Henley Royal Regatta and as a bartender at Lord's Cricket Ground.