

# Mohamed Rammal



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## About me:

3<sup>rd</sup> year MEng Mechanical Engineering student at UCL, highly interested and invested in the automotive and motorsport fields. Valuable experience in **Formula Student UK** and **Shell Eco-Marathon**. Wide software skillset including various CAD, CFD and simulation packages. Brings passion and technical knowledge into work and values teamwork and growth above all. Future career aspirations in Power Unit & Engine development and Strategy & Performance Simulation in Formula 1.

## Education:

### MEng Mechanical Engineering at University College London, UCL:

Sep 2020 – Jun 2024

- On track for a First-Class Honours with average of 78% in the first 2 years.
- Relevant modules: Advanced Thermodynamics & Fluid Mechanics, Dynamics & Control, Machine Learning & Neural Computing, Robotic Systems, Manufacturing & Design, Elasticity & Plasticity.
- 3<sup>rd</sup> Year project: Enhancing physiotherapeutic recovery by designing and building an exercise assisting device.

### Grand Lycée Franco-Libanais, Beirut:

Sep 2015 – Jun 2020

- French Baccalaureate (Scientific). Final average of 19.08/20. IB in Arabic, History and Geography.
- Designed and built a home robot assistant for the elderly during Final Year Project.

## Technical Skills:

- Certified professional in Static Simulation on Autodesk Fusion360 and proficient in CAD modelling and machining. Comfortable in ANSYS Workbench. Learning Siemens NX.
- Comfortable in MATLAB Simulink, Java, Python and Arduino programming.
- Knowledgeable in circuit design, electric components, and sensors. Comfortable in LTSpice and RapidHarness.

## Experience:

### Simulation and Performance Lead & Electronics Engineer at UCL Formula Student:

May 2021 - Present

- Simulated the UCL Formula Student car's behaviour in different environments and setups using IPG Carmaker.
- Designed and assembled the Brake System Plausibility Device that opens the emergency shutdown circuit when hard braking occurs after a specified throttle position.

### Powertrain & Control-Electronics Lead at UCL Eco-Marathon:

Oct 2021 - Present

- Designed and manufactured the vehicle's loom. Ensured electrical components receive efficient power supply.
- Provided the driver with live telemetry readings, a control dashboard and custom electronic accessories.
- Total powertrain efficiency up to 93%. Car mileage simulated to around 3000 km/m<sup>3</sup>.

### Senior Workshop Mentor at UCL Mechspace:

Oct 2021 - Present

- Provide students with the necessary help using the machinery in the workshops such as lathes, drills, laser cutters and 3D printers. Train junior mentors to use and maintain the workshop equipment.

### Vice-President of UCL Mechanical Engineering Society:

Oct 2020 - Present

- Organise extracurricular events for students such as socials, career talks and engineering competitions.

### Mechanical Lead of a FIRST Tech Challenge (FTC) Robotics team:

Sep 2015 – May 2019

- Led the design and build of robots completing tasks like collecting and scoring balls in various targets.
- Used Fusion360 to design and model the different components of our robots, and simulate their interactions and behaviour within the system and with the external environment.

### Workshop Assistant at Warde Steels and Metals:

Jul 2019

- Renovated old firefighting system in a hydroelectric powerplant in Lebanon through diagnosing and fixing mechanical and electrical defects and iteratively testing the system.

## Achievements:

- 2<sup>nd</sup> place in Sprint Race and 21<sup>st</sup> overall in Formula Student UK 2022 as rookies.
- Multiple awards including "Best Innovative Idea" in UCL Accessibility Hackathons in 2020 and 2021.
- 4x Best Mechanical Design, 4x National Champions and 1x Judges' Award at FTC World Championship.

## Hobbies and Interests:

- Proficient in English, French and Arabic. Learning Spanish.
- Classical guitar player since 2010 with 3 personal compositions.
- 1<sup>st</sup> Dan Kyokushin Karate fighter, competed on international level in Japan.