Mohamed Rammal

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Education:

University College London UCL: Meng Mechanical Engineering   **Sep 2020 – Jun 2024**
- On track for a First-Class Honours, with current average of 85.89% in Year 1.
- Relevant modules: Thermodynamics and Fluid Mechanics, Engineering Materials, Manufacturing and Design, Control and Instrumentation, Mechanics of Solids and Structures.

Grand Lycée Franco-Libanais Beirut: **Sep 2015 – Jun 2020**
- French Baccalaureate (Scientific). OIB in History & Geography and Arabic. Final average of 19.08/20

Work Experience:

UCL MechSpace (Mechanical Engineering Workshops) Mentor: **Nov 2021 – Present**
- Provide other students with the necessary help using the complex machinery present in the workshops.

Mechanical Engineering Society Sponsorship Executive: **Oct 2020 - Present**
- Manage sponsorships and partnerships between the society and relevant external companies.
- Invite companies to collaborate with the society in events providing lists of tiers and benefits.

UCL Robotics Society Co-Founder, Treasurer and Design Teaching Lead: **Oct 2021 - Present**
- Prepare tutorials for beginners and intermediate students to learn the basics of CAD on Autodesk Fusion360.
- Manage the society's finances for funding events and external competitions (e.g. Eurobots).

Project Impactive CAD mentor: **Feb 2021**
- Prepared and delivered an interactive course to high school students on the basics of Fusion360.

Warde Steels and Metals Workshop Assistant: **Jul 2019**
- Renovated an old firefighting system in a hydroelectric power plant in Lebanon, through diagnosing electrical and mechanical defects, planning and applying fixes, and iteratively testing the system.

Competitions | Awards:

UCL Racing Shell Eco-Marathon CAD engineer: **Nov 2021 – Present**
- Design, model, build and test drive an ultra-energy-efficient car running on a hydrogen fuel cell, where it must complete a number of static and dynamic events.
- Tasks include FEA, CFD, wind tunnel simulations, manage the BoM and use several manufacturing processes.

IMechE design Challenge: **Dec 2020 - Mar 2021**
- Designed a repeatable vehicle that can autonomously drive forward, hit a wall then go back to the exact starting location all while measuring the distance travelled mechanically. No processors were used.
- Used Fusion360 topology optimization and generative design to model lightweight and rigid supports.

UCL Accessibility Hackathons: **Sep 2020 and Sep 2021**
- Won "Best Innovative Idea" and "Creative Presentation" awards for designing a new muscle-aid device for patients suffering from neuromuscular disorders.
- Won "Most Impactful Idea" for designing a mobile app to help Down Syndrome patients communicate with their caretakers. Worked on an Interactive UI which translated the individual's needs through pictures.

FIRST Tech Challenge FTC [1] Mechanical Lead: **Sep 2015 – April 2019 (4 competition seasons)**
- Team of three members, later expanded to eight, working at home with our own resources, financing our seasons through assembling and selling 3D printers locally. Earned 8 national awards (including 2nd and 1st place) and 1 international award. National representatives in the world championship in the US for 4 seasons.
- Acquired skills in finding innovative solutions, project management, business plan, communication, leadership, Java programming (Android Studio), design mechanical models (Fusion360), and manufacturing.
- Used Fusion 360 to design and model the different components of our robots, and simulate their interactions and behaviour within the system as well as with the external environment.

AUB MSFEA Entrepreneurship Program: (3rd place)   **Jul 2018 – Aug 2018**
- Attended a series of IoT workshops, events and talks from entrepreneurs and environmentalists.
- Designed and built a pollution detection system for carbon-emitting power-plants using Raspberry Pi 3 and Python, with threshold evaluation and push-notifications to alert the administrators to change filters.

Technical Skills and Personal Interests:

- Proficient in Fusion 360 modelling, simulating and machining. Comfortable using ANSYS. Learning CATIA.
- Comfortable in Java and Python. Ongoing courses in ML, AI and C++.
- (Shin)Kyokushin Karate, since 2006. Black belt, competed on international level.
- Proficient in Arabic, French, and English. Learning Spanish.
- Classical guitar player since 2010 with three personal compositions.

(1): FIRST Tech Challenge: https://www.firstinspires.org/robotics/ftc