

MOHAMAD RAMMAL

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WORK EXPERIENCE



Design Engineer - RapidX Bio - Cambridge

May 2024 - Present

Reshaping the healthcare landscape by building a point-of-care infectious disease detection Plasmonic PCR machine, deployable in extremely remote areas without properly established medical infrastructure. The test can detect infectious diseases and AMR genes simultaneously from fluid samples including but not limited to urine, swabs, sputum, and Cerebral Spinal Fluid CSF

- Led the development from 0 to 1 of an innovative sample-to-answer cartridge mechanism
- Reduced the time of sample collection to treatment pathway from days / couple weeks to under 10 mins
- Primary inventor on two patents: "Sample transfer, element, kit, and method" ([WO2025114725A1](#)) and "Devices for Plasmonic PCR" ([GB202506609D0](#))
- Developed and built an automated test loading and unloading platform that substitutes the work of 2 full-time biochemists, enabling more efficient and groundbreaking work
- Led client meetings which resulted in securing multiple paid pilots: "Tropical disease detection with the WHO to test for leprosy in the Philippines" - "NIHR transformative and disruptive innovations to test children in the paediatric ward in Addenbrookes hospital (Cambridge, UK)" - "Veterinary market expansion to test cat and dog urine with Willows vet hospital (Solihull, UK)"
- Negotiated £1M+ in seed funding and a strategic long-term distribution partnership for the MENA region
- Established ISO 9001 and ISO 13485-compliant manufacturing partnerships for a 10,000 unit batch to serve the pilot studies. Led conversations with international partners for large scale manufacturing setup for 10M+ unit batches annually
- Represented the company at high-profile events: Innovate UK's Cohort 3 for the GIP for Urban Systems in May 2025 Hyderabad and Cambridge Wide Open Day CWOD in June 2025

Co-founder - MyQuizzy - London

Jan 2024 - Jun 2024

- Built an AI-native EdTech platform to streamline student and teachers workflows
- Saved teachers time by automating repetitive tasks such as homework generation, marking, lesson prep
- Provided adaptive quiz generation aligned with learning objectives to improve student preparation

Engineering Placement - Kaikaku - London

Mar 2024 - May 2024

- Designed, built and tested early-stage kitchen automation robots, contributing to product prototyping and assembly. Robot used to independently serve 1,000+ salad bowls daily

EDUCATION



UCL (University College London)

Sep 2020 – Jun 2024

- Master of Engineering - MEng, Mechanical Engineering. Graduated with First-Class Honours. Grade: 75%
- 3rd Year Project: "Enhancing physiotherapy recovery by designing and manufacturing an exercise assisting device" - Grade: 79%
- Final Year Project: "Design and manufacture a universal electric bike conversion kit" - Best undergraduate project in UCL Mechanical Engineering 2024 - Grade: 80%
- Relevant modules: Advanced Thermodynamics & Fluid Mechanics, Control & Robotics, Machine Learning & Neural Computing, Manufacturing & Design, Elasticity & Plasticity, Financial Aspects of Project Engineering

Grand Lycée Franco-Libanais

Sep 2015 - Jun 2018

French Baccalaureate, General Sciences. IB in History & Geography and Arabic. Grade 19.08/20

COMPETITIONS | EVENTS | AWARDS



UK Exceptional Talent Visa Recipient

Nov 2025

- Recognised by Tech Nation on behalf of the UK government as a leading talent in the tech scene

Research Development Project Lead - UCL Racing - London

Aug 2023 - Jun 2024

- Led a team of 6 to design UCL's first Formula Student Electric powertrain
- Designed Low and High Voltage PCBs and wiring harnesses and assembled a HV battery pack
- Developed a CAN-BUS telemetry system for fast and effective communication between components
- Placed 18th out of 37 international teams in FSUK 2024 Concept Class

Head of Simulation & Performance - UCL Formula Student

May 2022 - Oct 2023

- Simulated the UCL Formula Student car's behaviour in different environments & setups using IPG Carmaker
- Simulated the car's suspension system using SimScape & optimised the geometry for better performance
- Developed an intuitive data analysis system to visualise racing performance using MATLAB
- Designed and assembled the Brake System Plausibility Device that opens the emergency shutdown circuit when hard braking occurs after a specified throttle position
- Placed 21st out of 54 international teams in FSUK 2022 overall event including 2nd place in the sprint event

Head of Powertrain & Control-Electronics - UCL Eco-Marathon

Oct 2021 - Feb 2023

- Designed and manufactured the vehicle's loom. Ensured electrical components have efficient power supply
 - Provided the driver with live telemetry readings, a control dashboard, and custom electronic accessories
 - Designed and assembled customised PCB board to improve packaging and efficiency
 - Total powertrain efficiency up to 93%. Car mileage simulated to around 3,000 km/m³ of Hydrogen Fuel
 - Won the Data & Telemetry Award in 2023 Shell Eco-Marathon Europe
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IMechE Design Challenge

Mar 2021 and Mar 2022

- Won 3rd place out of 50 teams by building a repeatable vehicle that can autonomously drive forward, hit a wall then return to the exact starting position without using electronic processors in Spring 2021
- Won 3rd place out of 10 teams by building an accurate ball launcher mechanism that shoots a target more than 4m away in Spring 2022

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. Developed an interactive UI to translate the individual's needs through pictures

Robotics Team Co-Founder - ***FIRST Competitions***

2014 - 2019 (5 competition seasons)

- Founded a team of four members, working at home with our own resources
- Financed our competition 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 United States for four consecutive FTC seasons
- Acquired skills in finding innovative solutions, project management, business plan, communication, leadership, Java programming (Android Studio), design mechanical models (Fusion 360), and assembling
- 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

American University of Beirut Entrepreneurship

Summer 2018

- 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 filter
- Won 3rd place nationally out of 15 teams

VOLUNTEERING



- Professional-Class Design Engineering judge with F1 in Schools (now STEM Racing)
- Mentor within UCL Racing, providing junior members with technical support using machines & software
- Organised extracurricular events (socials, career panels, industry visits, and hackathons) as VP of the UCL Mechanical Engineering Society. Partnered with Autodesk for 2 mechathons with 90+ participants each

RELEVANT SKILLS



- Proficient in CAD modelling, static simulations (FEA & CFD) and CAM setup
 - Adept in MATLAB, Simulink, Python, and Arduino programming (C++), CAN-BUS systems and PCB design
 - Trained in water-jet cutting, 2- and 3-axis machining, mill, router, and lathe manufacturing
 - Proficient in English, French and Arabic
 - 1st Dan Kyokushin Karate fighter, competed on international level in Japan and Europe
 - Classical guitar player since 2010 with 3 personal compositions
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