Mohammad Shikha

BSc. (Hons) in Physics | Engineer | Programmer |

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Skills

`Electronic Circuit Design` | `Python` | `Micropython` | `Django` | `CAD Design` | `Arduino` | `Microcontrollers` |

`Raspberry Pi` | `Linux` | `C#` | `Git` | `IOT` | `Docker` | `AWS` | `mySQL` | `mongoDB` | `Virtual Machines` | `Microsoft Office Suite` | `Blockchain` |

`3D Printing` | `Autodesk Fusion` | `Graphic Design` | `Metal Working` | `Woodworking` | `SMD Soldering` |

Education

`SEP 2019 - JUN 2022` | **BSc. (Hons) Physics** Upper Second Class | **King's College London**

`SEP 2012 - JUN 2019` | **A Levels** | **GCSEs** | **Harris Academy St John's Wood, London**

Employment and Projects

KCL GPS Project | `Project` | `SEP 2021 - PRESENT`

Chief engineer of an open-source GPS platform as part of the King's Student Opportunity Fund. Designed a prototype schematic and circuit board of an IOT enabled GPS for consumer use. Microcontroller programming, database management and cloud computing utilised. Currently designing a mass market product. Project link: https://github.com/owen97779/gps-project

Pachamama Group | `IT Network Engineer` | `JUN 2018 - PRESENT`

Part-time position maintaining and streamlining the IT processes at a multi-site company with dependence on Windows Active Directory in accordance to GDPR regulations.

Nuffield Research | `Project` | `JUN 2018 - SEP 2018`

Web developer for the Nuffield Research Placement, creating a static website to aid the elderly with technology. HTML, CSS and Javascript used.

Tutoring | `Self Employed` | `MAY 2020 - PRESENT`

A-Level and GCSE tutor for mathematics and physics.

Relevant Courses

Java Programming MOOC | `University of Finland`

Introduction to Microsoft Azure | `Udemy`

Relevant University Coursework

Virtual Reality Solar-System Grand Tour | `2021`

A simulation of the Voyager 2 probe was made using the Unity engine and programmed using C# as part of a two person group project. Newtonian gravitation was numerically modelled to accurately output the correct trajectory and planetary orbits in accordance to the initial conditions provided by the NASA JPL dataset. VR implementation and interactive controls were implemented to create an immersive teaching experience. A scientific paper was made summarising the results. Project Link: https://github.com/owen97779/Unity-

Experimental Physics | `2021`

Physics experiments were performed using technical equipment, with scientific analysis including errors and uncertainties. Two main reports were made that communicated the findings.

Numerical Modelling | `2020`

Scientific computation of two real-world problems, the Travelling Salesman and the Tacoma Bridge. These systems were modelled and analysed in the form of a Jupyter notebook.

Relevant School Projects

Electric Bike Build | `2018-2019`

An EPQ (extended project qualification) project was made on the design and build of a custom electric bike. A 250W motor was used in a mid-drive configuration, with a custom 36V battery pack built with the use of spot-welders.

pfSense Router | `2017`

A custom router was built with the use of pfSense firewall and recycled hardware.

Robot Wars | `2014`

Designed a robot using arduino kits as part of a school robot fighting competition. This design reached first place.

Achievements

`2019` Imperial Electrical Engineering Summer School

`2018` LSE, UCL and Queen Mary Mathematics High School Mathematics Courses

Languages

`English` | `Persian`