Khubaib Malik

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https://malik5074.github.io/portfolio

PROFILE

As a dedicated mechanical engineering student and aspiring researcher, I am passionate about advancing robotics, additive manufacturing, and process optimization. Currently, I am working on optimizing parameters for additively manufactured AlSi10Mg alloys and developing applications for the Niryo Ned2 robotic arm to expand its capabilities. My academic background includes coursework in kinematics, ROS2, Gazebo, and reinforcement learning, which I actively apply through hands-on projects. Additionally, my role as a Research Assistant at the University of Bolton allowed me to explore metal 3D printing optimization using techniques such as Galvanostat, Potentiostat, and electron microscopy, complementing my experience as a CNC technician and proficiency in SolidWorks (CSWP certified).

Alongside my technical pursuits, I have developed teaching skills by guiding first-year undergraduate students through a project module as part of my internship and by tutoring my brother and cousin at the GCSE level. These experiences have strengthened my ability to communicate complex concepts effectively and foster an engaging learning environment. Eager to apply my diverse skills, I am driven to contribute to projects that push the boundaries of robotics and manufacturing, utilizing innovative approaches to solve complex challenges.

WORK EXPERIENCE

Research Assistant | Dr Mohin Ma (The University of Bolton)   **Apr 2024 - Ongoing**

- Since April, I have been working with Dr Mohin on several projects, including a robotic dog, a robotic hexapod, metal additive manufacturing, and additional confidential projects.

Ryley Research Assistant Intern | The University of Bolton   **Apr 2024 - Jul 2024**

- During my internship, I had the privilege to explore the captivating world of metal 3D printing and process optimization. My primary focus was on exploring the intricacies of metal 3D printed structures and conducting comprehensive testing using a range of specialized equipment, including Galvanostat, Potentiostat, Indentation Plastometer, and Electron Microscope

Alloy Wheel Repair & CNC Technician | Star Tyre UK Ltd   **Sep 2022 - Apr 2024**

- In this role, I gained hands-on experience as a Technician at Star Tyre UK Ltd, where I operated CNC Vertical Lathe Machines, engage in MIG and TIG welding, and execute precision Powder Coating.

MAJOR PROJECTS

Enhancing applications of Robotic Arm   **Oct 2024 - Ongoing**

- In this project, I am working on improving the application of Niryo Ned2 which is 6-axis robotic arm using Virtual Reality headset and Intel RealSense Depth Camera.

Parameters optimisation of 3D printed Aluminium Alloy   **April 2024 – July 2024**

- In this project, I worked on improving printing parameters of additively manufactured AlSi10Mg samples using XACT METAL XM200-G 3D printer. The samples were tested for mechanical and electrochemical properties.

EDUCATION

University of Bolton - BEng (Hons) Mechanical Engineering   **Sep 2022 – May 2025**

KEY SKILLS

- Python & JavaScript Programming

- Powder Coating Alloy Wheels

- MIG & TIG Welding

- Operating CNC Vertical Lathe Machine

- Computer Aided Designing in SolidWorks

- Finite Element Analysis (FEA)

- Additive Manufacturing

- 3D Modelling

- Office management including book-keeping, cash-ups, making VAT invoices, making purchase orders, adding deliveries, reporting to the manager regarding monthly growth and communicating with accountant for quarterly VAT return.

ADDITIONAL COURSES

- Machine Learning Foundations: Linear Algebra | LinkedIn Learning

- Artificial Intelligence Foundations: Thinking Machines | LinkedIn Learning

- MATLAB Desktop Tools and Troubleshooting Scripts | MathWorks

CERTIFICATIONS

- Certified SolidWorks Professional (CSWP) [2023]

- Emergency First Aid at Work [2022]

INTERESTS

- Robotics
- FDM 3D Printing
- CNC Milling
- Laser Engraving and Cutting
- IoT

RECOMMENDATION

Dr Mohin Ma
PhD, CEng MIMechE, BEng, PGCert, FHEA, CSWP
Lecturer in Mechanical Engineering at The University of Bolton

Working with Malik has been a fantastic experience, watching him dive into complex engineering tools and technologies with impressive agility. I had the opportunity to mentor him in CAD (SolidWorks), FEA (SolidWorks Simulation), MATLAB Simulink, and Additive Manufacturing, and he quickly put these skills into action. His ability to adapt and excel across diverse areas—additive manufacturing, electrochemistry, mechanical testing, and robotics—demonstrates his technical depth and genuine curiosity.

Malik doesn't just learn; he applies, innovates, and improves. From tackling intricate mechanical testing setups to refining 3D printed components, he brought fresh ideas and a proactive approach to every task. He's the kind of person who adds value right from day one, blending technical skill with creativity and a strong problem-solving mindset. I'm excited to see the impact he'll make in his future roles and highly recommend him to any team looking for a driven and versatile engineer.

REFERENCES

- Dr Mohin Ma | Lecturer, University of Bolton | m.mohin@bolton.ac.uk
- Mr Rab Nawaz | Director, Star Tyre UK Ltd | support@star-tyres.co.uk