

# REAZWAN AHMED

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## SUMMARY

Second-year Mechanical Engineering student at Kingston University with SOLIDWORKS CWSA certification and demonstrated experience in FEA optimization and CAD design. Successfully delivered projects for Jaguar Land Rover and IMechE competitions through innovative mechanical design and team leadership. Seeking 2025/2026 mechanical engineering placement to apply expertise in product development and advanced manufacturing techniques.

## EDUCATION

Kingston University, BEng Mechanical engineering

2022 - 2026

Featherstone sixth form, A-levels : Mathematics, Physics & Psychology

2020 - 2022

## WORK EXPERIENCE

### Jaguar Land Rover Suspension Knuckle Project

2024 (3 Months)

- Designed and optimized a rear suspension knuckle for Jaguar Land Rover's university challenge, achieving 12% weight reduction compared to traditional Rear knuckles while improving estimated long-term costs by an average of 18% through innovative material selection and biomimicry principles.
- Led material selection & Led finite element analysis and optimization using ANSYS and Siemens NX, achieving 20% higher safety margins compared to similar products while reducing complexity.
- Coordinated a 5-person technical team through DFMEA process, identifying and mitigating critical failure modes to deliver project milestones ahead of schedule.

### IMechE Design Project – Lead Designer

2024 (6 Months)

- Led 6-person team development of an autonomous mechanical vehicle achieving 95% positioning accuracy over variable distances (1.4m-4m) while maintaining consistent speed of 0.4m/s speed.
- Optimized vehicle design through SolidWorks & FEA analysis, utilizing only 75% of allocated budget while meeting all performance requirements through selection of PETG and Nylon-CF printed components.
- Managed complete product development cycle from concept to prototype, delivering the final working model 3 weeks ahead of schedule through efficient task coordination and prototyping iterations.

### Technical Design Projects - University & Personal

2023 - 2025

- Led design and FEA optimization of rocket components including nose cone and parachute deployment system, achieving 15% weight reduction compared to previous iterations while maintaining aerospace safety.
- Developed autonomous navigation system achieving 85% obstacle detection accuracy using sonar sensors and Arduino, integrating custom-designed 3D-printed components and implementing PID control for precise movement
- Designed and manufactured complex assemblies through FDM/resin printing with engineering tolerances, managing multi-team collaboration between mechanical and electronics subsystems to meet project requirements

## TECHNICAL SKILLS

- Design & CAD: SolidWorks, Siemens NX (CAD, CAM, FEA), ANSYS (Mechanical, FEA), GD&T, Drawings
- Programming : MATLAB, Python, C++, Arduino
- Manufacturing : FDM & Resin 3D Printing, Machining, Prototyping,
- Professional Tool : Microsoft Office Suite, Google Workspace

## CERTIFICATIONS:

- SOLIDWORKS CWSA - 2025, APM PFQ Certificate (Project Management) - 2024