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Location
Monmouth, Wales, UK

Education

Cardiff University
BEng | Mechanical Engineering (Grad. 2026)

University of Southampton
Engineering Foundation Year

A-Levels
Maths (A), Chemistry (C), Biology (B), Welsh Baccalaureate (B)

GCSEs
12 A*-B: Maths (A*), Physics (A*), Computer Science (A*), English Language (A)

Skills

Proficient SolidWorks User
Part creation and modification in offsetting sketches, geometry modifications, troubleshooting, assembly, and materials. Aiming for CSWA Certificate in Year 2 (Certified SolidWorks Associate Examination).

Capable in C++ and Python
Used C++ to control motors using Pulse-Width Modulation, designing with modularity, passing by reference, managing arrays, extensive conditional logic, and loop constructs. Created GUI in Python, simulating motion by dynamically drawing objects with time-based animations and error-handling.

Developing Use of MOTEC Data Analysis
Strengthening my understanding of aerodynamics, chassis tuning, and suspension, allowing data-driven adjustments to improve overall performance.

Skilled in MATLAB
Experience with modelling robotic arm geometry, applying vector calculations, trigonometry, and inverse kinematics, creating dynamic plots to represent robot linkages; as well as dynamically graphing oscillations for vehicle suspension.

Learning FEA using ANSYS Software
Completing the Eigenvalue Buckling tutorial in ANSYS demonstrating skills in geometry creation, material assignment, meshing, eigenvalue analysis, load application, buckling mode interpretation, and verifying simulation accuracy against analytical results.

Cameron Williams
Year 2 Mechanical Engineering Student

About

I am actively seeking an internship for Summer 2025 to build on foundations in engineering principles, CAD, analysis software, and coding, by gaining experience in high precision industries. In university, I have thoroughly enjoyed applying creativity in CAD to solve complex problems and leveraging my digital skills to enhance my solutions. As a motorsport enthusiast, I have relished the opportunity to realise my studies in Formula Student, merging scrupulous design with intense data-analysis.

Projects & Highlights

Formula Student
Year 2

Currently exploring vehicle dynamics in the 2024/25 IMechE Sim Racing Challenge, involving the review of MOTEC data to implement vehicle set-up changes and improve performance, measured with lap times. Recently introduced to CFD and FEA analysis through assessing design changes to the Formula Student car, as well as practical experience with car construction and disassembly.

SPTS Technologies Placement
June 2018

Assembled capital semi-conductor equipment in a Class 10 cleanroom, implementing gas delivery pipework and vacuum instrumentation; recognising the challenges of constructing complex machinery whilst wearing gloves, a non-shedding over-suit, over-shoes, and goggles.

Surgical Robot Project
Year 1

I devised a MATLAB script to visualise arm length combinations, before designing 3D printed PLA links and a water jet cut T6 Aluminium base in SolidWorks. Finally, I created adaptable C++ code for Arduino controlled motors, enabling sequential movement across unlimited sets of coordinates, adjustable to late design changes and achieving consistent millimetre scale precision.

Python & Group Research Projects
Foundation Year

Developed a mini-game using Python, GUI, and an animation system for projectile motion. I entered an Engineers Without Borders National Challenge examining biomass heating, and a review on 'Smart Cities', focusing on IoT, and AI predictive analytics exhibited in supply chains and waste management.

Multi-Stage 4:1 Reduction Gearbox Design Task
Year 2

Calculated suitable gear parameters, then sized shafts with combined bending/torsion, stress concentrations, fatigue, and materials with Factor of Safety, through the development of automated MATLAB scripts. FEA with ANSYS software, simplifying element count for gear modelling, meshing, and buckling analysis to evaluate overall strength of design.

Work Experience & Extra-Curricular

Chef
Pizza Express (Since 2021), Franco Manca (Nov 2023 — Feb '24)

Discovered that I work well under stress in busy kitchens, upholding quality and safety standards, giving and taking orders for successfully managing services. I led pizza-making masterclasses, and was commended for my ability to engage with children with additional needs, a rewarding highlight.

BUKC (British Universities Karting Championships)
Since 2022

I thrive from the adrenaline of racing, and have competed at circuits across the UK, my favourite being Glan-y-Gors in North Wales, achieving a best result of 5th place out of 36 at Clay Pigeon Raceway.

Music & Theatre
Youth Theatre (2014 — 2018)

I enjoyed youth theatre from ages 11-15, playing Balloo in a musical of The Jungle Book, and extras in Christmas Pantomimes. I continue my love of music by playing the piano and creating my own compositions using GarageBand and Logic Pro.

Tennis
Since 2022

I've enjoyed engaging in social-league tennis matches at University to keep fit and meet new friends.

Former Scout
2013 - 2016

Embarked on memorable 10-day camping expedition in northern Italy, involving a challenging Via Ferrata climb, a demanding Gorge Walk, and sailing across Lake Garda.