Diego Pilares Gallego

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ABOUT ME

MSc Motorsport Engineering student at Oxford Brookes with a background in automotive engineering, focused on vehicle dynamics, data analysis, and CAD. Driven by curiosity and a hands-on mindset, I enjoy solving engineering challenges and creating innovative, high-quality solutions. Passionate about motorsport, I am proactive, collaborative, and always seeking to deepen my understanding of performance and vehicle behaviour.

EDUCATION

MSc Motorsport Engineering   Sept. 2024 – Sept. 2025; Oxford, UK
Oxford Brookes University

- Expected mark: Distinction (pending dissertation)

- Key modules: Advanced Vehicle Dynamics - Advanced Vehicle Aerodynamics - Laptime Simulation and Race Engineering - Composite Design and Impact Modelling.

BEng Automotive Engineering   Sept. 2019 – Jan. 2025; Madrid, Spain
Universidad Francisco de Vitoria – Motor & Sport Institute

- Final Mark: 6.91/10 (2:1 UK equivalent)

- Key modules: Vehicle Dynamics - Design, Prototyping and Testing - Transmission and Gearbox - Suspension - Steering and Braking Systems – Powertrain – Aerodynamic - Fluid Dynamics – Thermodynamics - Machines and Mechanisms Theory - Advanced Materials.

PROFESSIONAL EXPERIENCE

Formula Student Team Member   Sept. 2024 – May 2025; Oxford, UK
Oxford Brookes Racing

- Collaborating with the Suspension & Structures departments to design and test new brake rotors and hub components.

- Using SolidWorks for CAD and HyperMesh for FEA, to enable structural and thermal analysis, as well as topology optimization.

Industrial Engineer Placement   Feb. 2024 – Sept. 2024; Madrid, Spain
NTT DATA

- Placement on Automotive department.

- Involved in the development of corrective measures and new functionalities.

- Produced technical documentation, training presentations, analysed and resolved issues for the portals of BMW Spain, Portugal, Italy, Mexico, Brazil and India. Created layouts for Hyundai Spain.

Formula Student Team Member   Sept. 2019 – July 2021; Madrid, Spain
UFV Racing

- Collaborated with the Electronics department, creating wiring diagrams and PCB layouts via LTSpice and EasyEDA, developed Aim PDM integration and engine mapping.

- Collaborated with the Systems and Testing department to install powertrain, steering, suspension and brake components onto the vehicles, CAD of components in SolidWorks, 3D printing of test components via Ultimaker Cura and TIG welding.

PROJECTS

MSc Dissertation: Hydrogen-fuelled LTC/CAI-IC engine control strategy optimization
Oxford Brookes University   Jan. 2025 – Present

- Simulation of a 1D Low-Temperature Combustion engine using GT-Suite.
- Control strategy development utilising DOE and optimisation using GT-Suite's ML algorithms.
- Focused on hydrogen to maximise efficiency and reduce NOx emissions.

Next-gen F1 compliance and setup study   Apr. 2025 – May. 2025
Oxford Brookes University

- Modified a 2024-spec F1 vehicle geometry to meet 2026 FIA technical regulations using AVL VSM.
- Simulated skid-pad and on-track performance and optimised suspension, tyres and brake balance.
- Used AVL Drive Race to analyse telemetry and validate setup improvements.

LMGT3 DrivAer front aero devices design and CFD validation   Oct. 2024 – Dec. 2024
Oxford Brookes University

- Designed front aero devices for a DrivAer model in SolidWorks, following LMGT3 regulations.
- Performance CFD validation on Star CCM+, assessing aerodynamic performance.
- Devised a wind tunnel experimental validation methodology.

Suspension Dynamics and Ride Optimisation   Oct. 2024 – Dec. 2024
Oxford Brookes University

- Bicycle model and Twin-Track model developed and analysed in MSC Adams.
- Developed 1, 2 and 4 Degrees of Freedom suspension models, analysed and optimized across cornering and vertical load cases in MSC Adams.

BEng Dissertation: Carbon fibre centre-lock rim for Formula Student   Aug. 2024 – Jan. 2025
Universidad Francisco de Vitoria

- Designed a lightweight carbon fibre rim with integrated centre-lock nut CAD model in SolidWorks.
- Performed FEA structural analysis on SolidWorks and determined the materials using Granta.
- Designed the rim and the centre-lock nut in compliance with ISO and Formula Student regulations.

Brake cooling duct design for race oriented GR86   Sep. 2023 – Jan. 2024
Universidad Francisco de Vitoria - Motor & Sport Institute

- Scanned a GR86 front geometry using EXScan for precise duct integration.
- Designed CAD model in SolidWorks and 3D printed multiple prototype designs with Ultimaker Cura.
- Performed FEA for airflow study and cooling performance improvements in SolidWorks.

SKILLS

- **Vehicle and systems simulation**: AVL VSM, GT-Suite, MSC Adams, MATLAB.

- **CAD, FEA and CFD**: SolidWorks, Star CCM+, XFLR5, Femap, Hypermesh.

- **Data acquisition and analysis**: AVL Drive Race, MoTeC i2.

- **Productivity**: Microsoft Office, Google Workspace.

LANGUAGES

- **Spanish -** Fluent
  Native

- **English -** Fluent
  Pearson PTE Academic Overall Score 80   – 2024
  Cambridge English Certificate level B2   – 2019

INTERESTS

Motorsport Engineering**:** Deep interest in vehicle design, performance optimisation and race technology evolution.
Sim Racing & Go-Karting**:** Exploring setup theory, tyre behaviour and handling dynamics.
Retro Electronics Restoration: Repair and modification of video game consoles and other electronics through reverse engineering and creative problem solving.
Gym training: Committed to training routines to support focus, resilience and discipline.

REFERENCES AND EMPLOYMENT STATUS

References available upon request   Currently on a UK Student Visa until January 2026.