Rafael Pérez

CFD Engineer — Aerodynamicist

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EXPERIENCE & PROJECTS

NOVEMBER 2013 – PRESENT
University of Southampton
Post-Graduate Researcher

Development of a LES Finite Difference Fortran code for wall bounded flows. Investigate the effect of Leading Edge Modifications on the performance of thick Aerofoils.

- Development of High-Performance Parallel CFD code.
- Development of High-Quality Multi-Block Structured Grids.
- Development of Parallel Post-Processing Tools.
- Development of Parallel 3D Interpolation Tools for Grid recycling.
- Development of an interactive Python Mesh Generation tool.

NOVEMBER 2013 – PRESENT
University of Southampton
Assistant Lecturer

Lead "Applications of CFD", "CFD Surgery", and "Aerodynamics" modules' lab sessions.

- Lead lab sessions for Ansys FLuent & Star CCM+.
- Problem Solving for multiple CFD applications.
- Introducing new users to the CFD methodology.

SEPTEMBER 2012 – MAY 2013
University of Southampton
Race Car Design Team

Team leader for CFD methodology in a 6-person project whose objective was to design an open wheel Hill Climb Race car.

- Development of a VBA/JAVA code for surrogate modelling optimisation.
- Development of Java macros for automating pre/post processing.

SEPTEMBER 2011 – JULY 2012
University of Madrid
Solar Car Prototype

Responsible for Aero & CAD for the desing of a solar powered race car for the Shell Eco-Marathon.

- Responsible for designing the car within competition constraints.
- Full Aerodynamic analysis for performance optimisation.
- Drag Reduction lead to **~30% power savings**.

EDUCATION

2013 – NOVEMBER 2016 (EXPECTED)
University of Southampton (UK)
PhD – LES of Tandem Aerofoils

- Technical Writing
- Advaced Computational Methods
- Aeroacoustics

2012 – 2013
University of Southampton (UK)
MSc – Race Car Aerodynamics – 1:1

- Desing of an Open Wheel Race Car
- CFD Modelling
- Desing Search & Optimisation
- Wind Tunnel Testing

2007 – 2012
UPM Madrid (SPAIN)
BEng – Aeronautical Engineer – 71%

- Aerodynamics
- Structural Analysis
- Aerospace Maintenance

COMMUNICATION SKILLS

NATIVE	Spanish, Catalan
PROFICIENT	English
BASIC	French

SOFTWARE SKILLS

GOOD LEVEL	Fortran, Python, Matlab, MPI, OPENMP, Ansys (Fluent), STAR CCM+, TecPlot360, Paraview ,CatiaV5, SolidWorks, Office
INTERMEDIATE	Java, LaTeX, VBA, Unix, GIT
BASIC LEVEL	C++, Pointwise, OpenFoam