

Marcos Acin

MSC AEROSPACE ENGINEER · MECHANICAL · STRESS ANALYSIS · FEA · CAD DESIGN · CAE · LEADERSHIP

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“The best way to predict the future is to invent it” - Alan Kay

Summary

Aerospace Engineer with 7 year experience specialized in Finite Elements & Stress Analysis in UK, USA and Spain. Exec MBA candidate. Leading structural analysis and design projects teams for Aerospace, Automotive and Maritime sectors. Using FEA & CAD tools to design and perform structural analysis, verification and validation with physical testing. Spanish Ministry National Award for Excellence in Academic performance.

Work Experience

SuperNode Ltd

Dublin, Ireland

STRESS ENGINEER

Dec. 2020 - Present



- Using my expertise in stress and structural analysis to enable the de-carbonisation of energy in our societies towards 2050.
- Developing cutting-edge, bulk power transfer and transmission grid products to capture Europe's offshore renewable energy on vast scale.

NASA – AMES RC - Advanced Supercomputing

Silicon Valley, California, USA

STRESS ANALYSIS EXPERT

Aug. 2019 - Present



- Development of thermal protection systems in support of NASA's atmospheric entry missions.
- Heat Shield FEA modelling at high temperatures and hyper-sonic conditions using FEA coupled to other fluid codes.
- Optimizing new materials and their structural and thermal behavior through self-developed FEA & FVM codes.
- Development of C++ and Python FEA codes for assessing structural and thermal response of woven and fibrous materials.

Applus IDIADA – Automotive Crash Safety

Tarragona, Spain

FEA LEAD ENGINEER

May 2017 - July 2019



- Leading vehicle structural simulation design teams for OEMs worldwide (Honda US, Peugeot, Dyson).
- FEM modelling of cars, pedestrians and human dummies using LS-DYNA, RADIOSS and NASTRAN, Excel VBA and scripting.
- Developing strategies to meet different safety requirements for US, EU and China regulations.

Rolls-Royce – Aero-engines Structural Impact Group

Derby, UK

FEA STRESS IMPACT ENGINEER

Oct. 2016 - May 2017



- Leading structural FEA projects related to gas turbines impacts (bird strike, ice slab ingestion, etc.)
- FEA modelling of complete fan engines, structural analysis and optimization using LS-DYNA and bash scripting.
- Liaising with multiple Rolls-Royce teams and departments for a satisfactory and timely project delivery.

Strand7 UK Ltd – Software for Structural Analysis

Cambridge, UK & Sydney, AU

FEA TECHNICAL SUPPORT ENGINEER

July 2014 - Sept. 2016



- Providing FEA technical support and consultancy services to Strand7 users in Europe.
- Delivering 1-week FEA training courses to engineering companies on Strand7 and Structural Analysis.
- Attending engineering shows and conferences exhibiting Strand7 capabilities to customers.
- Liaising with the development team to provide feedback on FEA performance and bench-marking.

Education



Ulster University

Belfast, UK

EXECUTIVE MBA

2020 - 2022

- Current MBA 2 year part-time candidate.



Cranfield University

Cranfield, UK

MSC IN AEROSPACE VEHICLE DESIGN (STRUCTURAL DESIGN)

2013 - 2014

- Erasmus program – Excellence in Achievement Award.



Polytechnic University of Valencia

Valencia, Spain

MENG IN AERONAUTICAL ENGINEERING

2012 - 2013

- Top 1 Distinction. Airbus Group and Ministry of Education awards for best academic record.



Polytechnic University of Madrid

Madrid, Spain

BSC IN AERONAUTICAL ENGINEERING

2009 - 2012

- Top 5 out of 300.

Skills

Interpersonal	Strong work ethics, decisive and skilled problem solver, able to work independently as a team and leading, strong analytical skills, quick learner, excellent organization skills, ability to communicate at all levels, able to multitask and prioritize efficiently.
Languages	Spanish (native), English (proficient – C2), French (basic).
Structural Analysis	LS-DYNA, NASTRAN, MADYMO, ANSYS, RADIOSS, STRAND7, ANSA/META, CODE ASTER, HYPERMESH.
Programming	EXCEL VBA, PYTHON, MATLAB, BASH/SHELL, C++, MATHEMATICA.

Honors & Awards

2020	Excellence in Achievement Award for Recent Aerospace Graduates , Cranfield University	<i>Cranfield, UK</i>
2018	National Award for Academic Excellence , Spanish Ministry of Education	<i>Madrid, Spain</i>
2017	Pegasus Award , European Group of Aeronautics and Space for EU multi-national experience and research	<i>Europe Union</i>
2016	Best academic record in Aeronautical Engineering , Airbus Group	<i>Valencia, Spain</i>
2016	Academic Excellence , Spanish Ministry of Education	<i>Valencia, Spain</i>
2013	Erasmus grant , MSc £10.000 fee waiver due to academic performance	<i>Cranfield, UK</i>
2008	Young entrepreneur finalist award , ILDEFE & Leon city council	<i>Leon, Spain</i>

Publications

JOURNAL ARTICLES

Anisotropic Analysis of Fibrous and Woven Materials. Part 2: Computation of Effective Conductivity

F. SEMERARO, J. C. FERGUSON, M. ACIN, F. PANERAI, N. MANSOUR

Computational Materials Science, Vol. 186 (Aug. 2020). 2020. DOI: [10.1016/j.commatsci.2020.109956](https://doi.org/10.1016/j.commatsci.2020.109956)

CONFERENCE PROCEEDINGS

Tools and Automation Capabilities for Modelling Marine Structures

M. ACIN, E. KOSTSON

14th International Conference on Computer and IT Applications in the Maritime Industries pp. 418–432, 2015, Ulrichshusen, Germany, URL: www.compit.info

Courses & Certifications

2020	Artificial Intelligence: Human - Centered AI Deep Learning and Beyond , Stanford University	<i>Silicon Valley, US</i>
2019	French Basics - 2 years , Tarragona's language school	<i>Tarragona, Spain</i>
2019	Madymo - Vehicle Occupant Safety , TASS	<i>The Hague, NL</i>
2017	ANSA, META - Introduction and automotive modeling , BETA CAE	<i>Tarragona, Spain</i>
2016	Structural Optimization in FE Analysis , NAFEMS	<i>World Wide Web</i>
2015	Fatigue & Fracture Mechanics in FE Analysis , NAFEMS	<i>World Wide Web</i>
2014	Introduction to FEA, Nonlinear Analysis and Dynamic Analysis , Strand7	<i>Sydney, AU</i>
2009	Certificate in Advanced English (C1) , Cambridge Assessment English, ESOL exams	<i>Leon, Spain</i>

Industry Projects

Computation of Thermal Properties in Fibrous and Woven Mats using CT scans	<i>Silicon Valley, US</i>
NASA AMES - SUPERCOMPUTING PROJECT	<i>Dec, 2019</i>
Occupant Safety CAE development for OEM: ENCAP, CNCAP, IIHS, R14, R15, R16	<i>Tarragona, Spain</i>
APPLUS IDIADA - PASSIVE SAFETY PROJECT	<i>March 2019</i>
Wheel Kinematics test development for IIHS Small Overlap Assessments	<i>Tarragona, Spain</i>
APPLUS IDIADA - PASSIVE SAFETY PROJECT	<i>Jan 2018</i>
Trent XWB 97k - Weight Optimization Assessment with LS-DYNA	<i>Derby, UK</i>
ROLLS-ROYCE - PASSIVE SAFETY PROJECT	<i>Jan 2017</i>
Ultrafan - Composite fan blade assessment due to ice slab impact using LS-DYNA	<i>Derby, UK</i>
ROLLS-ROYCE - PASSIVE SAFETY PROJECT	<i>Jun 2017</i>