

Gregg D. Cowell

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EDUCATION

UNIVERSITY OF LIVERPOOL AEROSPACE ENGINEERING (MASTERS) 2006 - 2010 | Liverpool, UK Grade 2:1

- Aerodynamics, Aerostructures, Systems Theory, Thermodynamics, Enterprise Studies and more.
- Final year project: Quadrotor Drone Design and Build.

SKILLS

ENGINEERING ANALYSIS

Static Stress (C.F Bruhn, M.N Niu) • MathCAD • MSc Patran/Nastran • FEA • Structural Optimisation • Altair Inspire • OptiStruct • LimitState

PROGRAMMING

Shell • JavaScript • Matlab • Simulink • Object Oriented Programming • php • Laravel • HTML5 • CSS • SQL • Docker • Python • C++ • node.js • MVC Architecture • Blockchain • Smart Contracts • Solidity / Ethereum • Machine Learning • TensorFlow • Evolutionary Algorithms

ENGINEERING DESIGN

CATIA v5 • Autodesk Fusion360 • Blender • Autodesk Meshmixer • Freeform Generative Design • Cura • SolidWorks.

PORTFOLIO

SOFTWARE

FULL STACK PHP MARKETPLACE
Uses PayPal REST API and complex SQL queries to facilitate trading of random objects.

ETHEREUM TEXT COMPILATION DAPP

Uses Swarm, Ethereum ERC20 Tokens and web3.js to facilitate decentralised EVM compilation of documents.

MACHINE LEARNING FOREX TOOL

A tool illustrating currency pair price predictions using various ML approaches (convolution, reinforcing, neural nets, etc.)

GENETIC OPTIMISATION ALGORITHM

Optimisation of a structural beam using evolutionary algorithms.

[Learn More](#)

EXPERIENCE

AKKA TECHNOLOGIES | RESEARCH & TECHNOLOGY SYSTEMS ENGINEER

Jul 2017 - Present | Airbus, Bristol, UK

- Technical leader and integrator for flight test activities on advanced aircraft steering systems.
- Coordination and technical leadership of several research projects encompassing aircraft electromechanical braking and electrohydraulic steering.
- Production of technical specifications for evolving research projects.

AKKA TECHNOLOGIES | STRESS ENGINEERING TECHNICAL LEADER

Jul 2017 - Jun 2020 | Heroux Devtek, Runcorn, UK

- Coordination and technical leadership for stress analysis tasks on KFX fighter aircraft landing gear.
- Acting as the sole point of contact in customer facing and offshoring activities.

EXPLEO | ADDITIVE MANUFACTURING TECHNICAL FOCAL POINT

Aug 2015 - Jul 2017 | Bristol, UK

- Winner of the 2015 "Airbus Innovation Award" for work on Value Engineering by topology optimisation.
- Led a team which successfully delivered a complex optimised 3D printed aluminium component for Airbus A320.
- Led a consortium of UK businesses to take part in the "Innovate UK Connected Digital Additive Manufacturing" competition for a prize of £1.5million of funding.
- Co-developed a TRL3 level algorithm to model and predict build stresses in metal Additive Manufacturing powder bed systems.
- Key point of contact in customer and partner facing role, including regular technical presentations to senior engineering professors, managers and commercial officers.
- Audited Airbus Broughton production line to suggest opportunities for improvement through application of Additive Manufacturing technologies.
- 3D structural optimisation of Trailing Edge Riblets using Hyperworks, OptiStruct and Altair Inspire.
- Advanced PolyNurb organic topology modelling using Altair Evolve.
- Developing new business models around emerging Additive Manufacturing technology.
- Delivering concise technical presentations to high level engineers and non-technical managers.

ASSYSTEM INDIA | STRUCTURAL REPAIR MANUAL (SRM) TEAM LEADER

Jan 2014 - Aug 2015 | Bangalore, India

- Led a team of 10 stress engineers in Bangalore, India. Developed and managed resource plans and Work Breakdown Structures for multiple projects. Acted as primary technical point of contact.
- Successfully scoped and delivered Structural Repair Manual (SRM) analysis and justification reports for A320 Sharklet.
- Produced analysis for wing skins, stringer, flap track support structure and interfaces with the newly designed Rib 27 region, covering abrasions, gouges, fastener damage and other repair criteria.
- Planned and implemented the technical justification route for A320neo SRM flap track beams.

- Scoped, analysed, compiled and delivered technical documentation for the Flap Track Support Structure for Single Aisle.
- Worked jointly alongside F&DT engineers in order to produce highly comprehensive combined justification reports meeting all Allowable Damage Criteria.
- Liaised with technical publication team to produce SRM diagrams and repair instructions.

ASSYSTEM UK | AEROSTRUCTURES STRESS ENGINEER

Jul 2010 - Jan 2014 | Various Locations

- Wide experience of processes across a diverse range of military and civil aircraft programs.
- Extensive knowledge of Flap Track Support Structure for Sharklet and Neo programmes.
- Developed minimum analysis certification plan for A320 and A321 composite spoilers on Sharklet and Neo, based upon pressure comparisons and max jacking forces.
- Led a large team of engineers in Bremen, Germany to deliver certification analysis and documentation for A320Neo wing structure, including Root Joint, Flap Tracks and Fairings, and Pylon.
- Compiled analysis for the Wing Root Joint on both A320 and A321neo programmes between MG7 and certification, using SPARTOOL, COMPHILO, APA114 and other bespoke Airbus tools.
- Produced a parametric FE model for assessment of vibrations and deflections in the A320 wingbox at the NACA duct interface.
- Compilation of analysis dossiers from MG5 to MG13 (certification), stud testing, loads generation and checking. Produced analysis for flap track forward and aft fittings, actuator levers, beams and fairings.

SPLASH TECH WORKSHOPS | ROBOTICS ACTIVITY TEACHER

Aug 2005 - Oct 2009 | Liverpool, UK

- Teaching children from eclectic and disadvantaged backgrounds to design and construct automated robots.
- Delivering quality, enthusiastic sessions aimed at inspiring an interest in science and engineering.
- Developing clear, engaging presentation techniques for children of all ages.
- Managing safety procedures around electrical systems.
- Presenting technical information to a public audience.

ENTREPRENEURSHIP

SERAF 3D PRINTED WATCH

Ongoing project with Swiss Watch manufacturer to conceptualise, design & manufacture a titanium watch via laser melted additive manufacturing.

LAIWA MACHINE LEARNING SMART METER

Project with Laiwa Communications to design a low-cost, generic household smart meter for mass adoption.

NEOPTERA VTOL STARTUP

Ongoing collaboration with Anglo-French aerospace startup Neoptera to refine their proposed electric VTOL aircraft.

CUSTOM AUTOMOTIVE 3D SCANNING TO CAD

Collaboration with Australian pickup truck supplier to develop a pipeline for 3D scanning to CAD for aftermarket custom coachbuilding.

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SOCIAL LINKS

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