Curriculum Vitae of Matt Nugent

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Dual Citizen of UK and New Zealand

Inspired by my family's motorsport background, I pursued mechanical engineering at university and was awarded a MSc in Advanced Motorsport Engineering at Cranfield University. My passion is high-performance motorsport engineering, and I have been fortunate to kick start my career in recent roles working in elite motorsport. With over seven years' technical experience, including as a professional data engineer for Rodin Motorsport and Supercars, both of which were high pressure environments which allowed me to fast track my professional development. I am committed to the highest standards across all aspects of motorsport – performance, attention to detail, presentation, problem-solving, and communication. Having reached a critical point in my career within motorsport I'm looking for a fresh challenge to take my skills and knowledge to the next level.

KEY ACHIEVEMENTS

- Developed Sensor Loom for Rodin Motorsport's 2024 F2 Car. This helped to reduce lead times for a project with a very compressed timeline.
- Awarded a MSc in Advanced Motorsport Engineering at Cranfield University with a thesis titled Optimisation of Energy Deployment for an Electric Rally Car
- Senior leadership team member for University of Canterbury Motorsport team, overseeing the design, build and testing of an entirely new concept. The result was a reliable Formula Student single seater race car that was second fastest overall and placed third in the design event at FSAE Australia.

WORK EXPERIENCE

Rodin Motorsport: Farnham, United Kingdom – FIA F3 Data and Performance Engineer (Jan 2023 – Present)
Formerly Carlin, UK based team with a rich history in junior formula racing.

- Responsible for all data and electrical systems across the FIA F3 team.
- Developed tools and processes to improve analysis capabilities within the team.
- Working closely with race engineers to tune systems to the driver.
- Time critical problem-solving during sessions.
- Developed sensor system for new F2 car for 2024.
- Close collaborative relationship with chief mechanic to ensure any anomalies are investigated and resolved.

Supercars: Gold Coast, Australia – Programming and Data Engineer (Jan 2021 – Dec 2022)
Supercars is Australia's leading motorsport category.

- Oversight of all motorsport data related issues within Supercars.
- Developed and generated internal and external reports related to ongoing scrutineering, safety and research for the development of the new age "GEN3" car introduced in 2023.
- Created new methods to improve Supercars' scrutineering ability (Python, MATLAB, Excel).
- Performed live, time-sensitive data analysis during all sessions across Australia and New Zealand.
- Developed relationships with all Supercars teams to facilitate constructive communication both ways.
- Designed and implemented test sensor package for new age "GEN3" car introduced in 2023.
- Built category-controlled logging and controls software package for GEN3.
- Directly involved regulation updates to close loopholes in sporting and technical regulations.

Motorsport Electronics Ltd: Auckland, New Zealand – Engineer (Feb 2019 - Jun 2019, Jun 2020 – Dec 2020)
Motorsport Electronics Ltd is New Zealand's leading motorsport electronics supplier.

- Expansion of products and services offered to customers, including new sensors and in house design of bespoke products for individual clients.
- Completed detailed design work of the Toyota Gazoo Racing FT60 wiring loom for the Toyota Racing Series (now, Formula Regional Oceania Championship). This work was completed to a tight timeline due to late confirmation of the project.

- Designed new products for manufacture including paddle shifters and temperature sensors. Gained experience designing for manufacture as well as navigating the process of using Chinese machine shops.
- Hi-Pot Component testing, CAN Bus fault diagnosis and programming, manufacture of harnesses and sensors, and development of internal Excel tools.

Giles Motorsport Ltd: New Zealand – Tyres and Fuel (Jan 2019 - Feb 2019)
Giles Motorsport Ltd is a regular front runner in the Formula Regional Oceania Championship (previously, Toyota Racing Series) – the premier open-wheel motorsport category held across five weeks in New Zealand.

- Responsible for tyres and fuel for four cars.
- Worked with engineers to improve method of delivering tyre information.
- Worked with engineers to ensure the correct tyres were mounted and available when required.
- Responsible for ensuring tyre regulations were adhered to at all times.
- Responsible for the presentation of the garage, gaining an appreciation for the importance of presentation in motorsport.

University of Canterbury Motorsport: Christchurch, New Zealand – Lead Powertrain Engineer (Mar 2017 – Dec 2018)
University of Canterbury Motorsport is the Formula SAE team at the University of Canterbury.

- Promoted to Lead Powertrain Engineer in November 2017.
- Responsible for oversight of all powertrain components and engine dyno calibration.
- Lead testing engineer at the track. This involved balancing input from sub-teams to organise and execute test plans.
- Managed powertrain sub team of 6 students. This involved running regular sub team meetings and implementing one on one meetings with team members to ensure a reliable, rule compliant package.
- Designed, built, and wired an engine dyno rig for a new engine platform.
- Designed final drive system using Finite Element Analysis (FEA) to develop the concept; balancing manufacturing cost and weight.
- Designed and manufactured on car electrical systems (wiring loom, engine management, data logging, shift actuation).

EDUCATION

MSc Advanced Motorsport Engineering: Cranfield University, Cranfield, United Kingdom (Oct 2019 - Sep 2020)

- **Thesis:** Optimisation of Energy Deployment for an Electric Rally Car. A project primarily based on vehicle simulation and optimisation of energy use, created using python.
- **Group Design Project:** Development of a hydrogen combustion/battery electric hybrid Lotus 7 style race car for a low-cost single make race series. Involved primarily in powertrain and lap time simulation, and mechanical design.
- **Modules**: Motorsport Electronics and Data Acquisition, Composite Structures for Motorsport, The Business of Motorsport, Motorsport Aerodynamics, Motorsport Vehicle Dynamics, Motorsport Powertrains, Computational Fluid Dynamics for Motorsport, Motorsport Structural Analysis.

BE (Hons) Mechanical Engineering: University of Canterbury, Christchurch, New Zealand (Feb 2015 - Nov 2018)

- **Second Class Honours (Division One)**
- **Golden Key International Scholar**: Recognition for being in the top 15% of the cohort.
- **Final Year Modules**: Honours Research and Development Project, Computational Fluid Dynamics, Mechanical Systems Design, Linear Systems Control and System Identification, Aerodynamics and Ground Vehicle Dynamics, Engineering Product Design Analysis, Engineering Management and Professional Practice for Mechanical Engineers.

SKILLS

- Extensive knowledge of Excel, Wintax, MoTeC i2.
- Skilled in MATLAB, Python, Microsoft Office suite, Solidworks, LaTeX.
- University project-based experience with CATIA V5, ANSYS Fluent, AVL Boost.

COMMUNITY INVOLVEMENT

- Elected by peers to the University of Canterbury, College House Students Association House Council as Cultural Chair.
- Duke of Edinburgh Bronze Award.
- Volunteer Lifeguard at Surf Life Saving New Zealand 2010 – 2019. Secured funding to start an Inflatable Rescue Boat racing team at my surf lifesaving club. Previously qualified to pre-hospital emergency care first aid (NZQA 25412).

OTHER INTERESTS

- Keen guitar and bass guitar player, previously playing in bands performing at large university events.
- Former kart racer. Keen swimmer, and regular gym goer.
- Travel enthusiast. Also enjoy photography, film development and repairing vintage cameras.

References available upon request. Please keep this CV confidential due to the nature of my current employment.