

Jordan Ballantyne

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Personal Profile

MEng Powertrain Engineer specialising in calibration process automation and data-driven tooling for engine development. Currently working with Royal Enfield as a Senior Engine Management Systems Engineer, main responsibilities focus on calibration process improvement, optimisation and automation.

Prior to Royal Enfield, worked with Tevva initially as a Mechanical Design Engineer, then later as a Whole Vehicle Test & Validation Engineer, this role initially involved the specification, execution, analysis and reporting of various vehicle level prototype tests. Later progressing to leading the issue management and resolution process, along with maintaining other various wide-ranging responsibilities that would normally be expected in a growing small business.

Before Tevva, worked with McLaren's small and focused Powertrain Operations team as a Mechanical Development Engineer, this role was secured after a successful collaborative engine analysis project in my final year of university. I was responsible for the planning & execution of various dynamometer-based engine tests, analysing engine test data to develop both the mechanical operation and various data processes for engine calibration. The role also involved post-test physical component inspections and designing custom components for prototype testing. Unfortunately, the role at McLaren was made redundant during the Covid-19 Pandemic.

Technical skills

Powertrain Development • Calibration Workflow Automation • Data Analysis

Simulation & Testing • Vehicle Dynamics • Project Planning & Delivery

MATLAB • Python • C# • .NET • SolidWorks • Onshape • Catia • MSOffice

Post Higher Education Employment

Senior Engineer (Engine Management Systems) – Royal Enfield Ltd

07/2023 – Present

- Develop standalone software tools to streamline, optimise & automate the calibration process.
- Standardise data processing methods across various ECU platforms from multiple suppliers.
- Research and implement statistical & analytical techniques to evaluate test data.
- Support calibration activities throughout the development of multiple projects.

Test & Validation Engineer (Whole Vehicle) – Tevva Ltd

12/2021 – 06/2023

- Specify testing procedures, criteria and objectives for a wide range of prototype vehicle tests.
- Development of an internal vehicle issue management and reporting system.
- Report engineering issues and lead issue resolution processes across all engineering teams.
- Optimise the departmental DVPs to ensure alignment with test plan.

Mechanical Design Engineer (Chassis) – Tevva Ltd

06/2021 – 12/2021

- Develop the design of various mechanical systems/components throughout EV products.
- Sign off technical drawings for various parts & assemblies throughout the vehicle.
- Create and manage the DVP for all owned systems through to completion.
- Liaise with and present to senior stakeholders on various business critical topics.

Mechanical Development Engineer (Powertrain) – McLaren Automotive Ltd

09/2019 – 10/2020

- Coordinate dyno tests for development, durability, critical vibration, calibration & certification.
- Analyse historic and ongoing test data to recognise and contain failures before occurrence.
- Develop automated approaches to failure prevention and data analysis to reduce costs.
- Complete and present detailed post-test reports for both powertrain design and directors.

Co-Founder & Crew Chief – Orthrus Racing

2015 – 2023

Co-founded and managed the only fully student led motorcycle race team in Europe during the first year of university with little funds or support. Achieved 9 Podiums & 3 Wins in the first year of competition, allowing for the forming of a well sponsored team with various parts sponsors such as Ohlins & EBC Brakes.

In 2019, went on to compete at the Isle of Man Manx GP and left with a podium finish and fastest race lap in the both the newcomer and senior race. Becoming the first ever fully student led team that employed a student rider to do so.

Since inception, deeply involved in every aspect of creating and maintaining the team's ability to succeed.

Education

2014-19 – Advanced Engine Design (MEng) Hons: University of Wales Trinity Saint David (UWTSD) Formerly Swansea Metropolitan University. - Grade: 2:1

2018-19 - Final Year - MEng

- **Final year Project (Thesis - MEng)** – Design & analysis of a variable compression & expansion ratio engine design, importantly one that could fit into any existing internal combustion engine. This analysis work was done in line with a large automotive/motorsport manufacturer. An automated and virtual approach to engine balancing for various V configuration engines was also being developed in line with the same manufacturer.
- **Concept Engine Design & Prototype Manufacture (Dissertation)** – Design and analysis of a wide range of valvetrain components with the final dissertation focusing on the development of a camshaft profile generation program which can convert any camshaft profile to a valve lift profile and vice versa.
- **Engine Performance & Emissions (Dissertation)** – This module focused on the development of a two-zone NOx prediction combustion model solely from cylinder pressure data and basic engine geometry information, this was completed in both Excel and Matlab.
- **Advanced Motorcycle Dynamics** – Focused on the mathematical modelling of out of plane motorcycle dynamics and phenomena and electric powertrain technology.

2017-18 - Third Year - BEng

- **Third year Project (Dissertation)** – The third-year project began with the development of a postrace weekend performance analysis software application for motorcycle race teams through data consolidation and analysis from all areas of a team. This software was being developed in line with a top tier team, however due to external circumstances was not continued past initial development stages. The focus of the project was then re-directed towards the development of an automated optimization process for engine balancing within a CAD environment, this was successful and was further developed to suit various engine configurations for a large automotive manufacturer.

Pre Higher Education Employment

Early career (2007-14) in customer service and project coordination (AEGON, Sky, Iron Mountain) — developed stakeholder and process-management skills.

2003-07 Deans Community High School - 10 GCSE's from grade A* to C