Tools and Projects Portfolio

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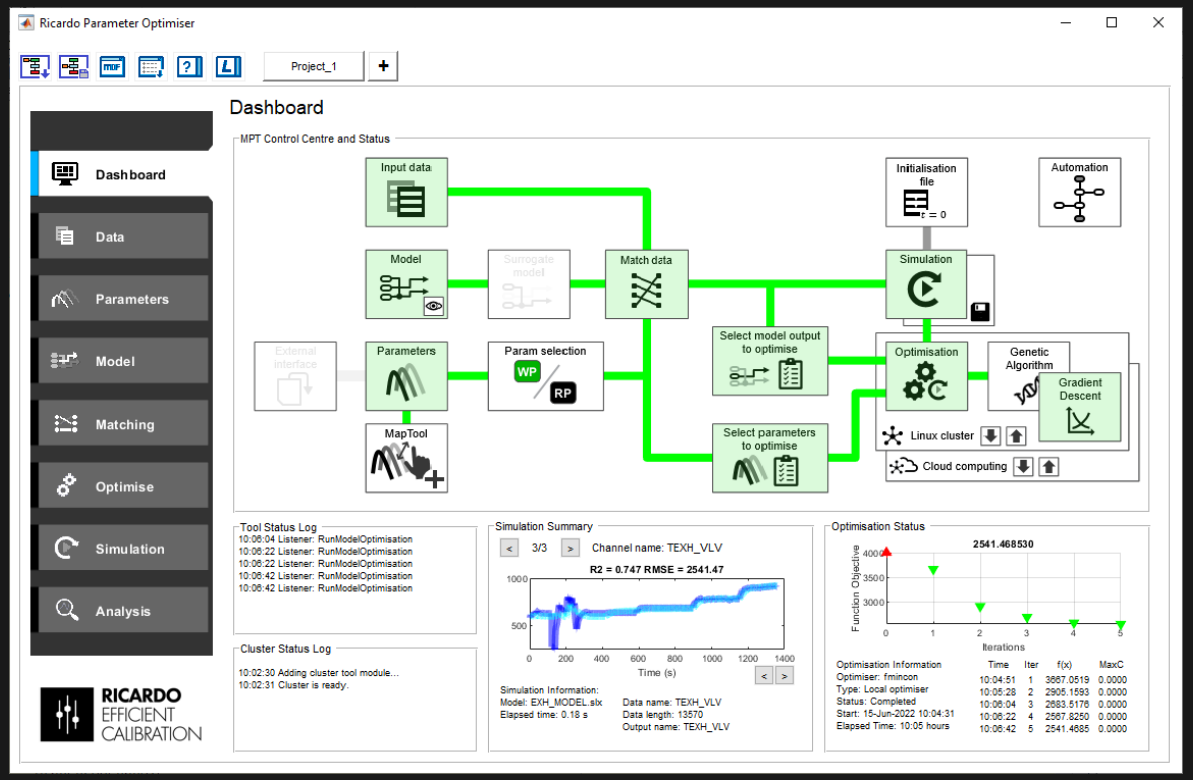
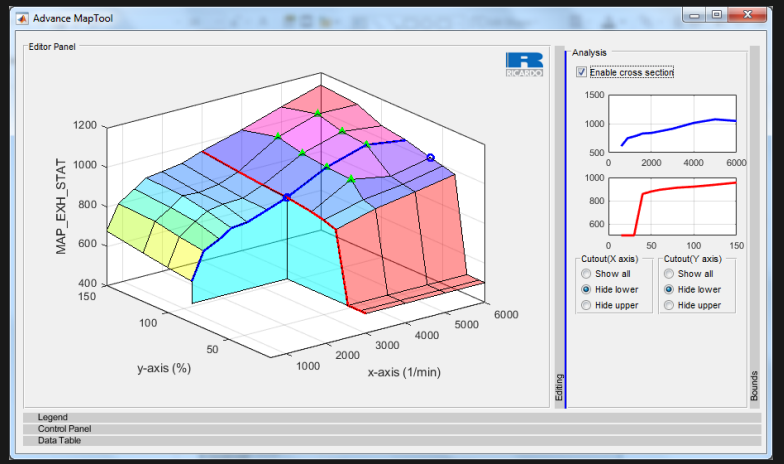
https://farraen.github.io/Portfolio-tools/#/

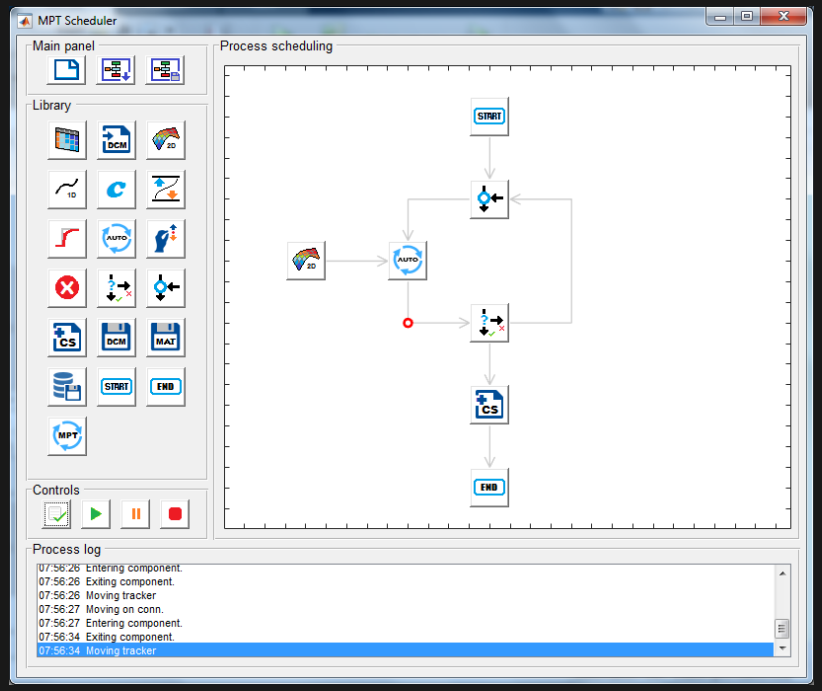
Parameter Optimiser: A software for optimising models and parameters



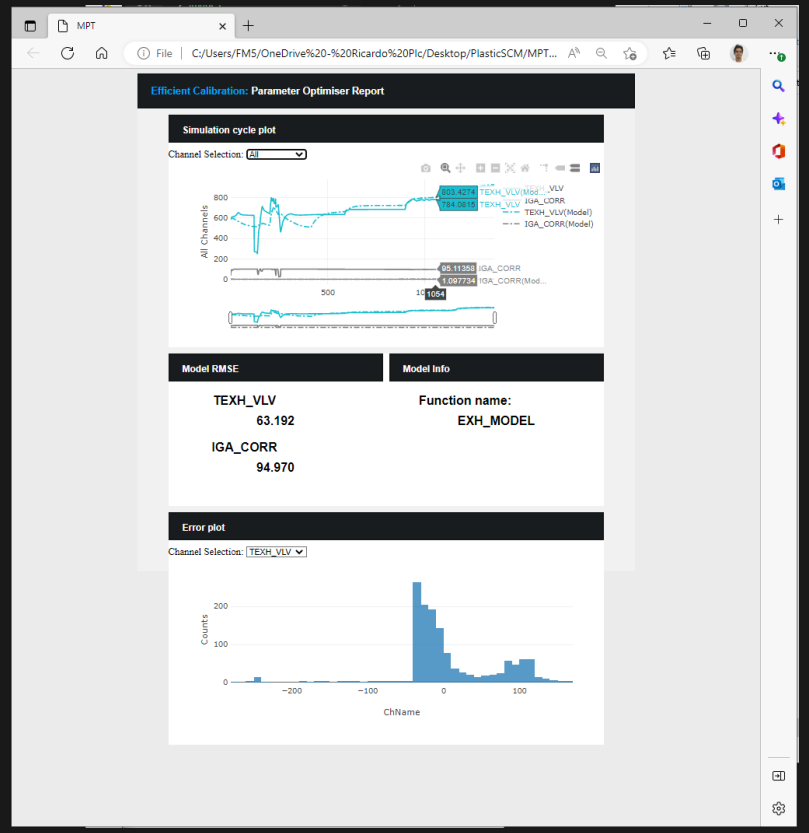
Map editing tool to allow engineers quickly modify calibration maps



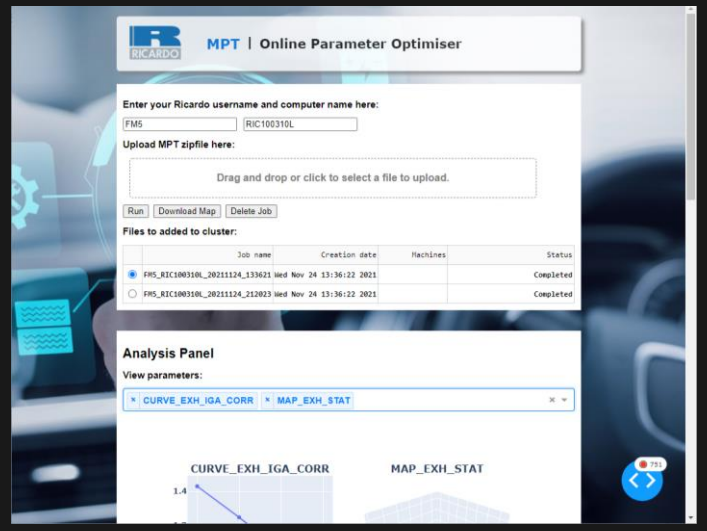
Interactive process scheduler for optimisation scheduling: Programmed from scratch in Matlab environment without any toolboxes

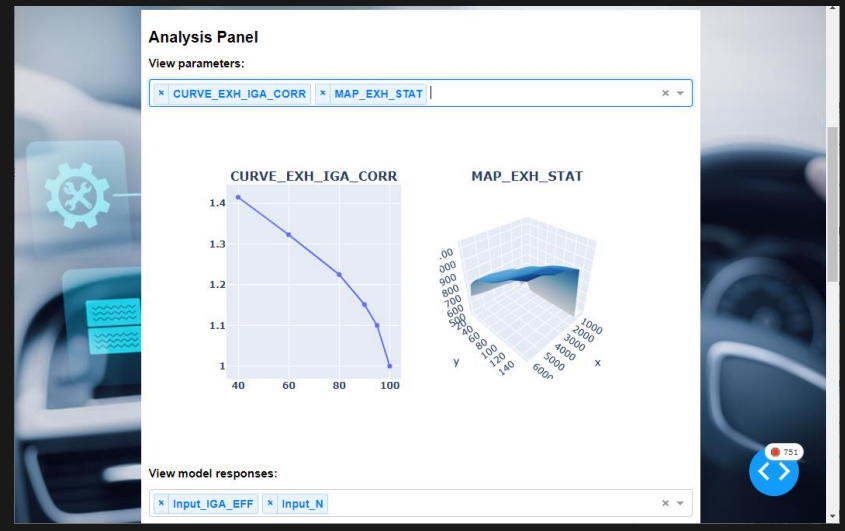


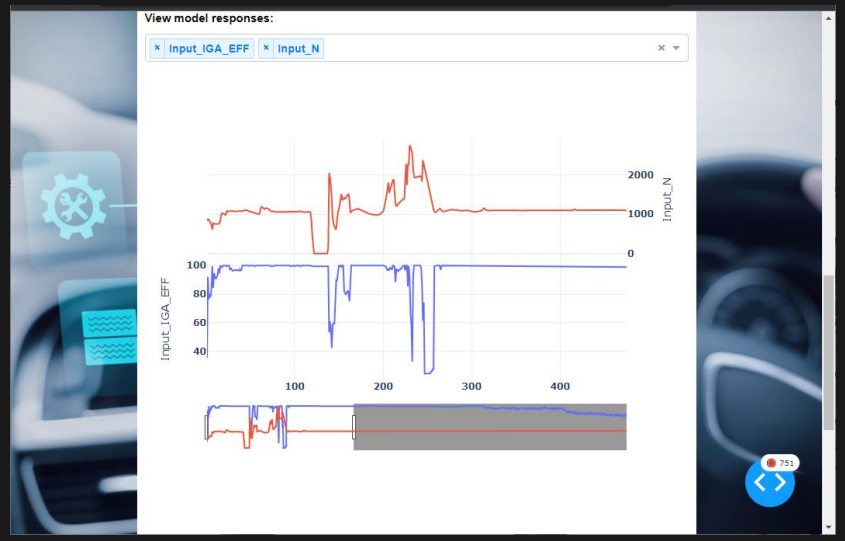
Interactive Calibration Report Generator in JavaScript



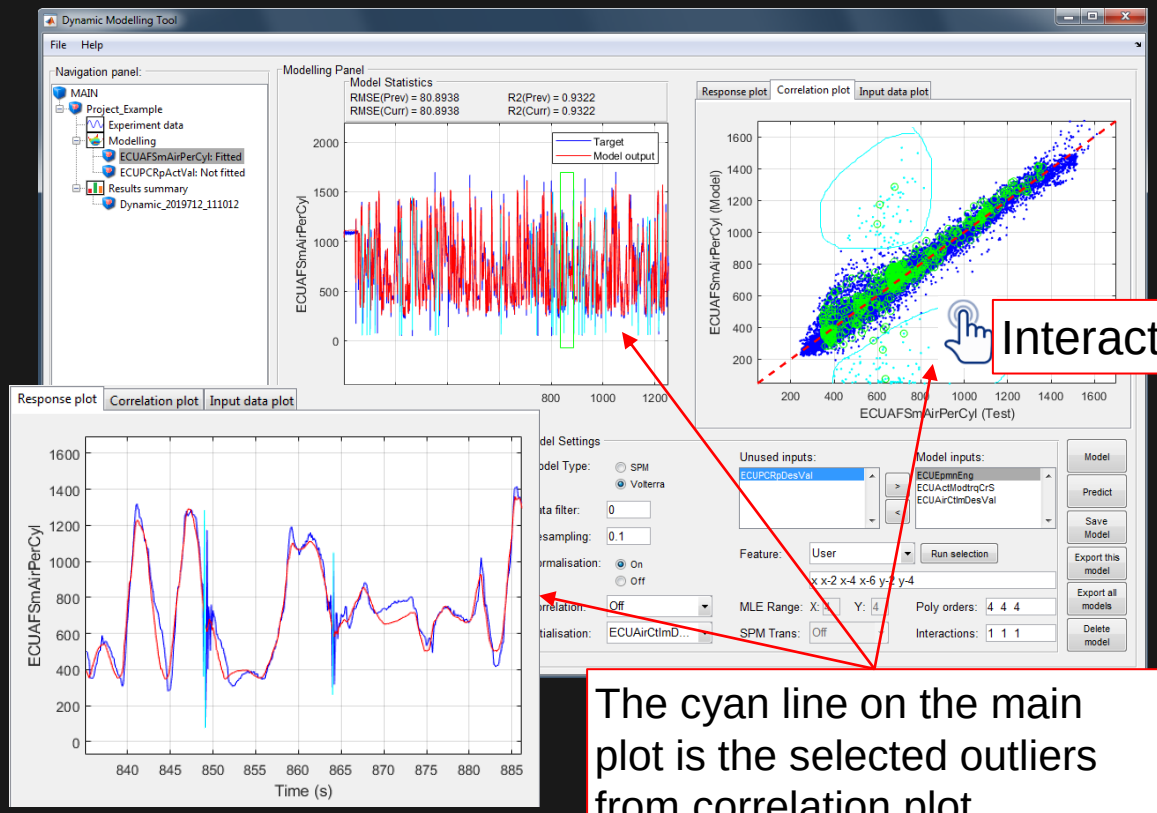
MPT-Online: A dashboard to view optimisation in Linux cluster







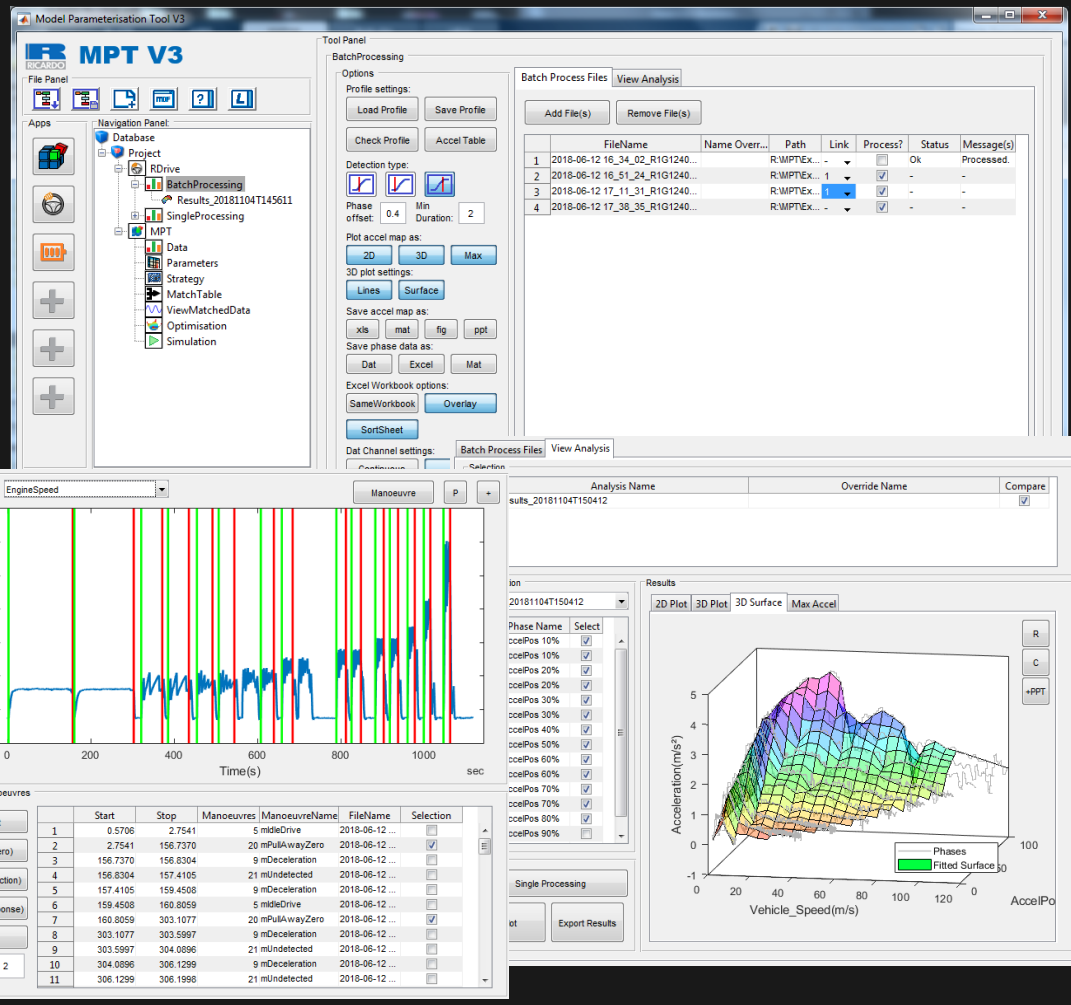
Dynamic Modelling Tool



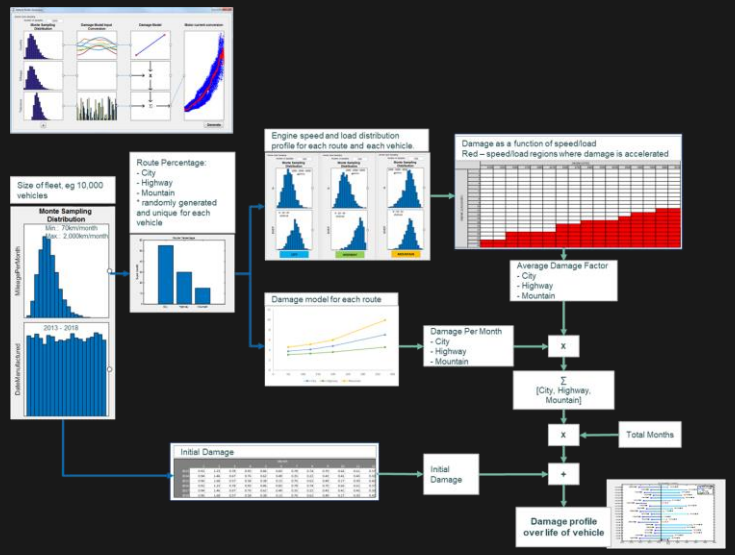
Interactive tool

The cyan line on the main plot is the selected outliers from correlation plot.

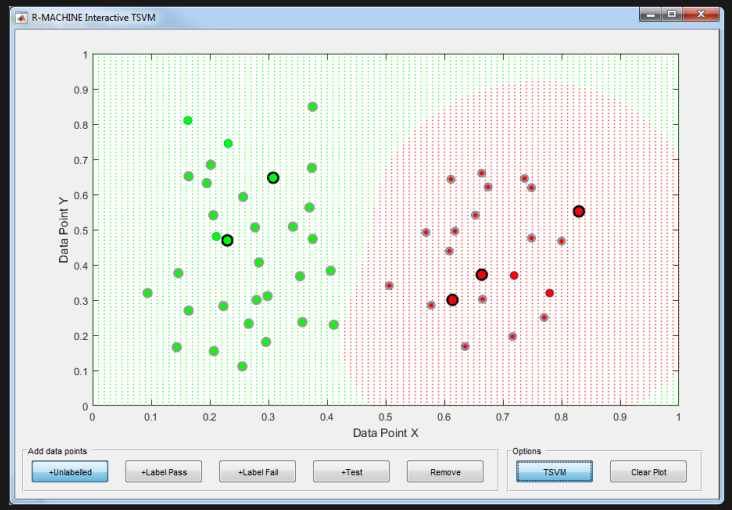
Driveability Tool



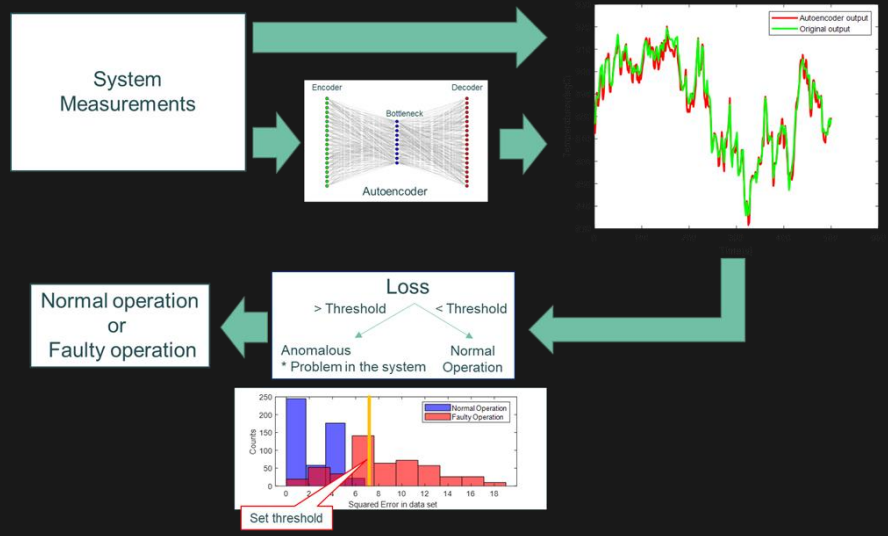
Monte-Carlo Simulation: A process to generate artificial fleet when data is not enough for training purposes



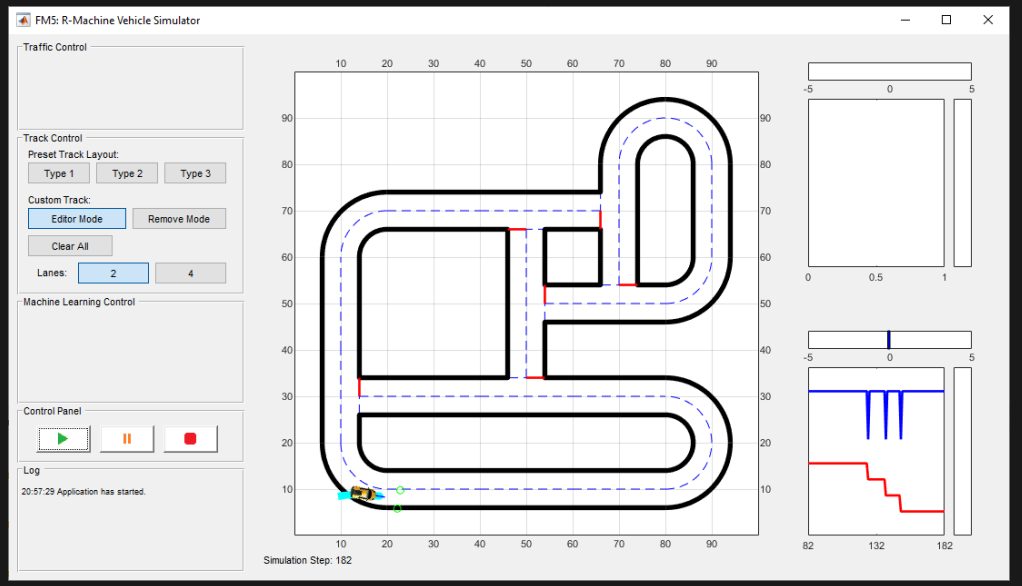
A tool to test SVM (Support Vector Machine) behaviour when new data are introduced



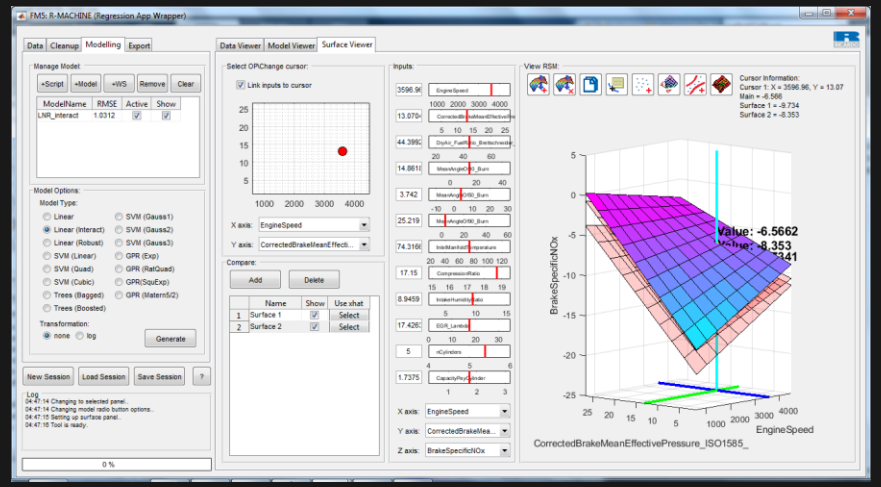
Using auto-encoder to detect anomalies in vehicle measurements

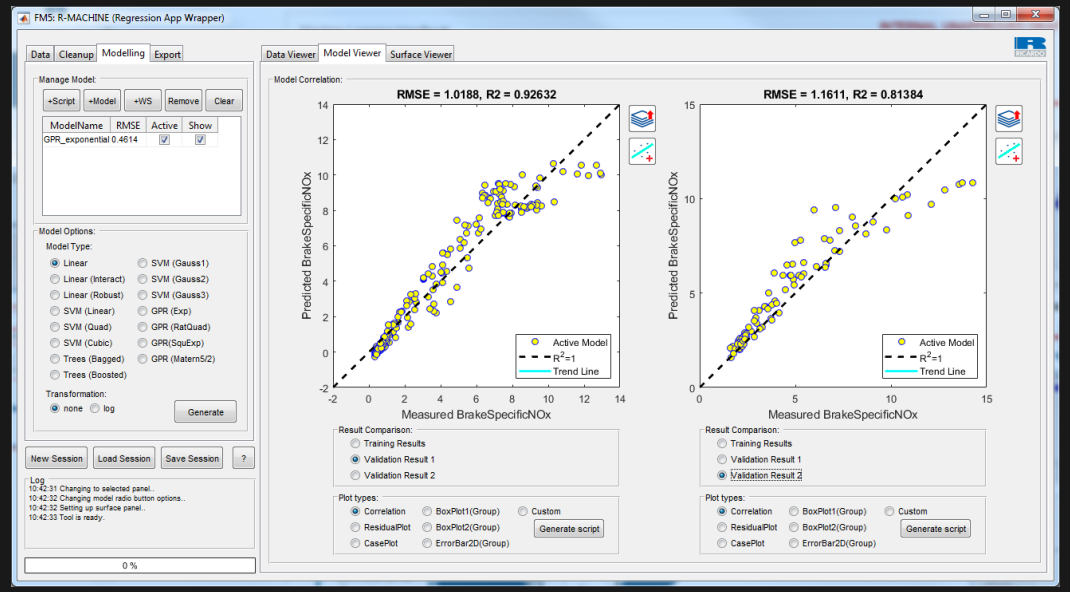


An interactive fleet simulator to test control systems

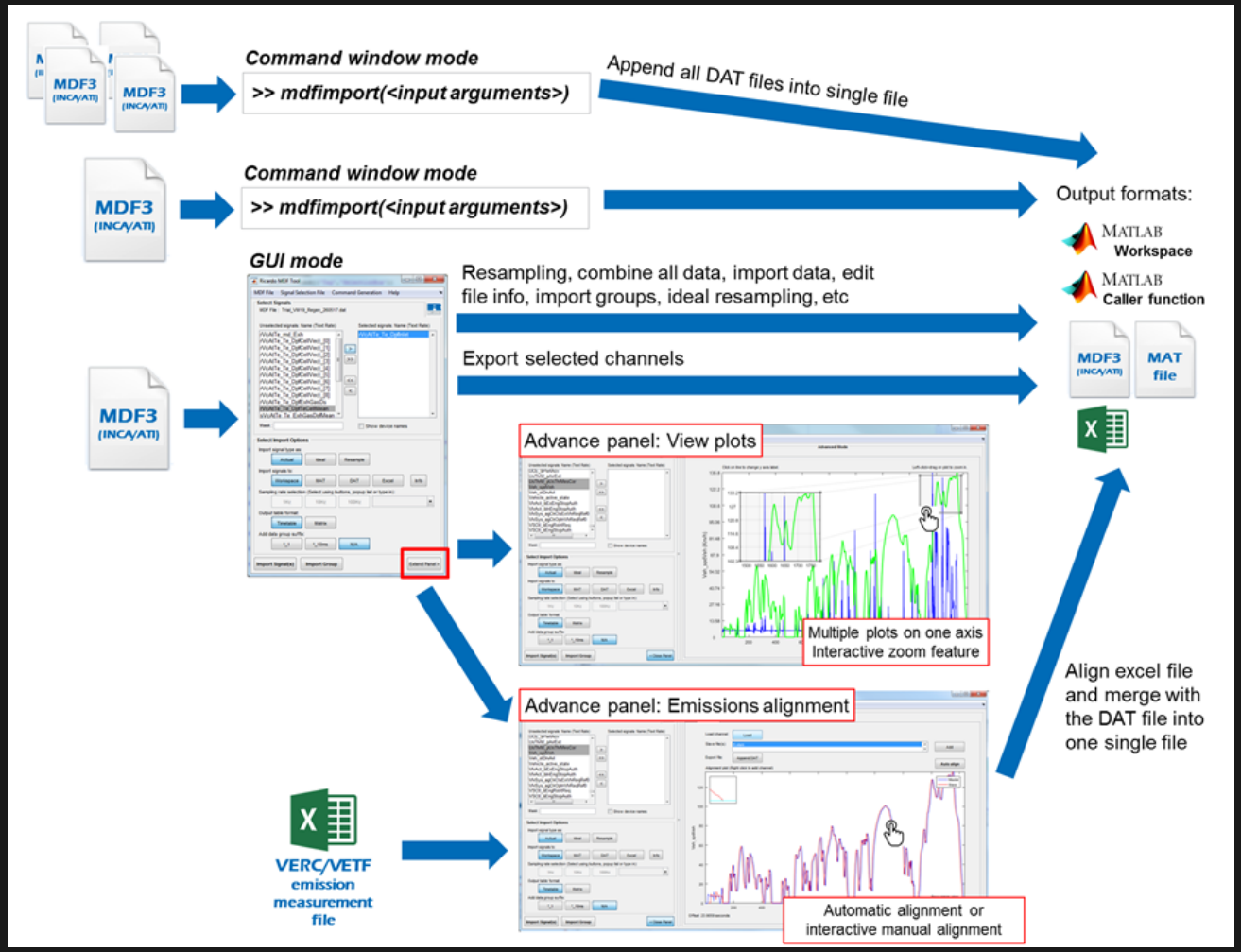


Multi-purpose regression tool for generating machine learning models

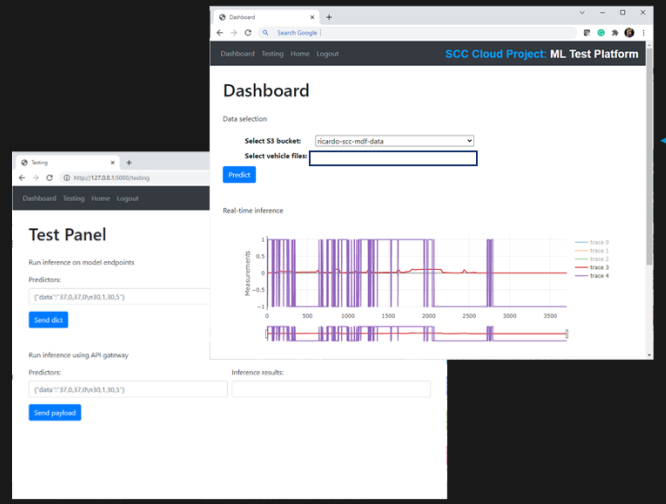




Vehicle measurement file tool for converting binary files into excel or Mat files and alignment tool for combining with emissions file

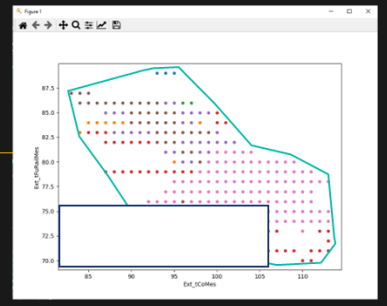


AWS SageMaker and online dashboard to monitor anomalies in vehicle measurements files

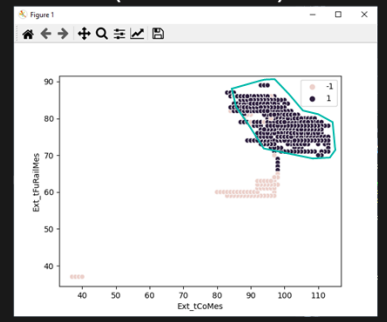


Local Outlier Factor (LOF)
A unsupervised anomaly detection algorithm

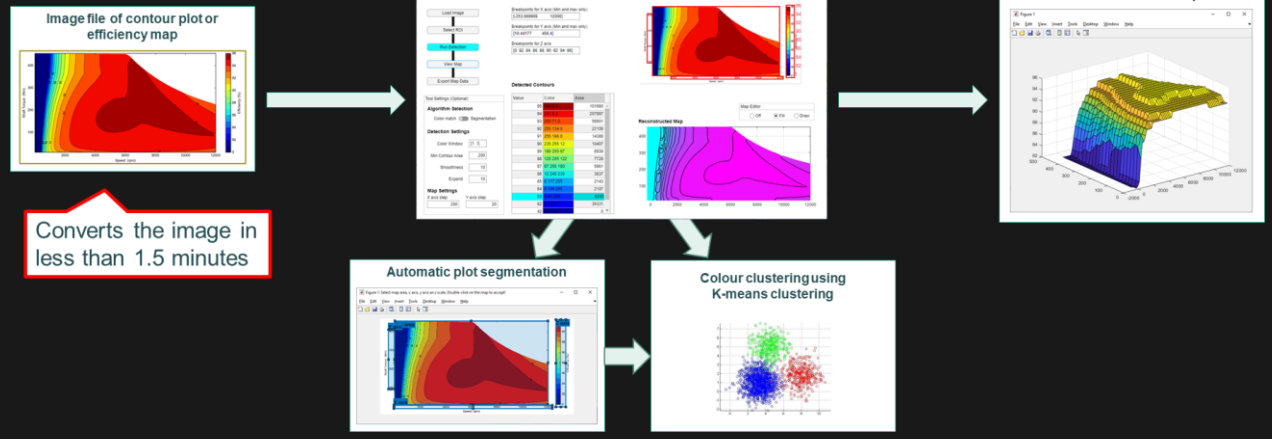
Training Data (normal)



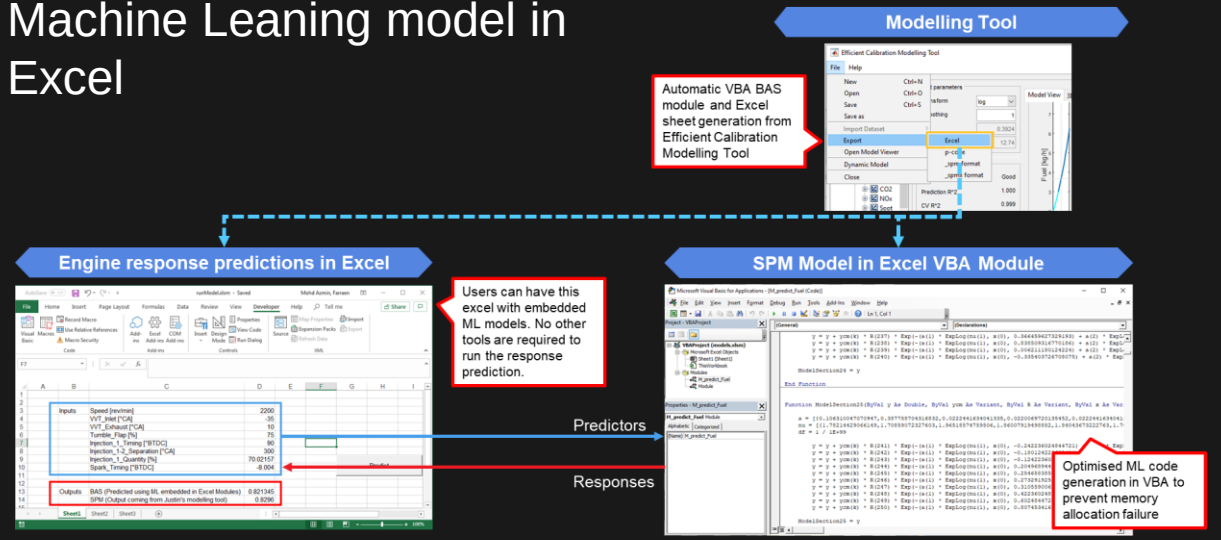
Test Data (with anomalies)



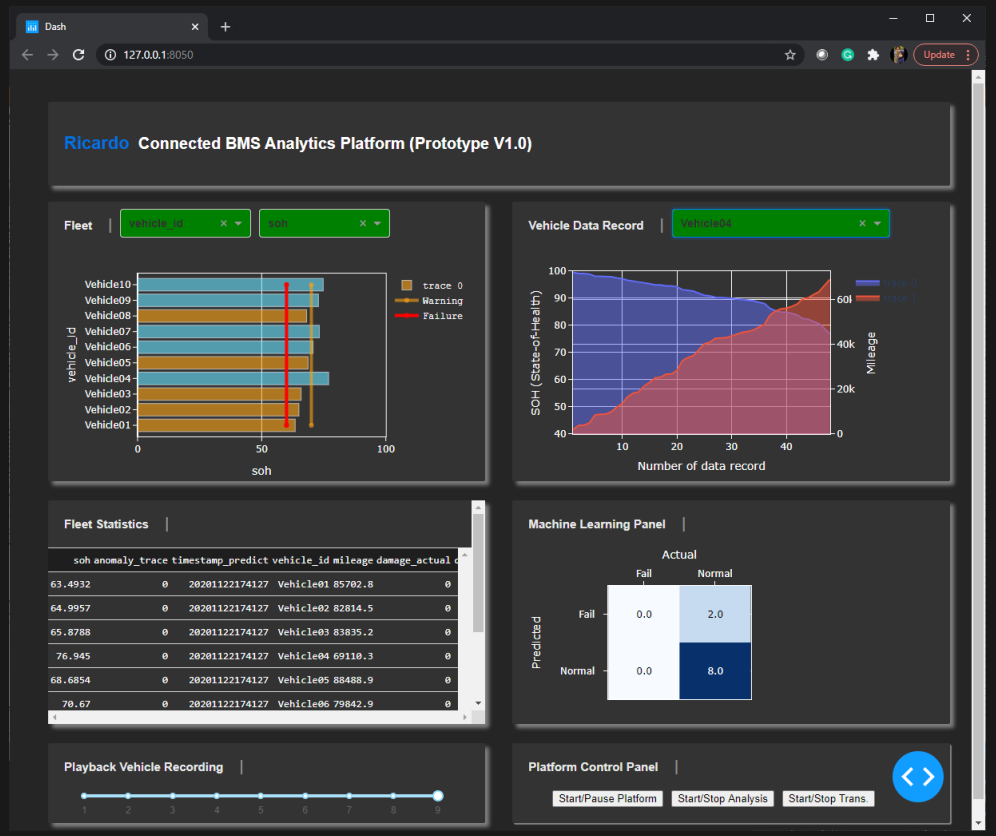
Automatic efficiency map conversion for image into numerical data

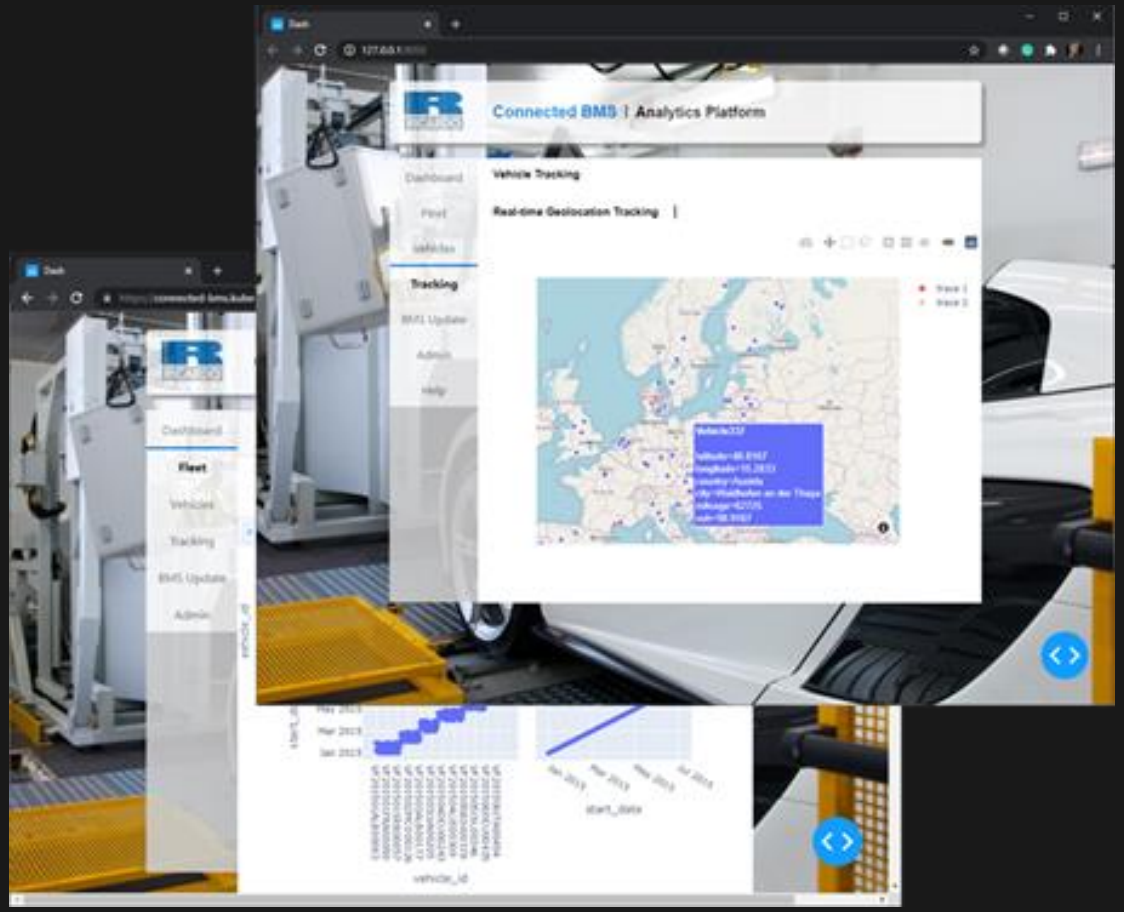


Machine Leaning model in Excel



Connected-BMS project: Developed a fast machine learning platform to simulate vehicle fleet and anomaly detection





PhD at Loughborough University

A interface made from a Simulink (embedded in xPC target machine) to control a heavy duty diesel engine for self-calibrating architecture research. The interface allows me to view data streams from the engine and monitor the machine learning process generating calibration maps.