

# Tirath Matharu

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## Skills

Leadership | Mentoring Skills | Problem Solving (Red X) | Python | MATLAB/Simulink | CAD Proficiency (SolidWorks) | DFM  
DFMEA | Prototype Fabrication | 3D Printing | CNC Milling | Lathe (Turning) | Welding | General Fabrication

## Experience

**Battery Program Manager - Battery Packs**, Stellantis N.V. – Auburn Hills, MI Feb 2024 – Present

- Managed STLA-Large battery packs, guaranteeing the achievement of targets for budget, timeline, quality, and performance parameters across all developmental stages.
- Provided transparent insights into project progression through detailed weekly reports to senior management, identifying potential risks and opportunities for efficiencies.
- Oversaw the product life cycle, resolving supply chain and logistics challenges to ensure seamless production continuity.
- Proactively mitigated risks and maintained updated risk statuses in coordination with design and various platform teams.

**Calibration Engineer - Driveability & Emissions**, Stellantis N.V. – Chelsea, MI Jan 2020 – Feb 2024

- Developed engine calibrations to meet emissions and driveability standards through effective use of DVPRs and DoEs.
- Experienced in data acquisition with ETAS (INCA) and proficient in data analysis using MDA/XOPlots, leveraging expertise to drive feature development in Catalyst Heating, Transient Fuels, and Open/Closed Loop Fueling.
- Collaborated with base engine calibration and hardware teams, utilizing on-site labs (HIL), test facilities (Climatic Chambers), and vehicle groups to implement optimal design and calibration solutions.
- Maintained daily issues list tracker to efficiently root cause, debug, and provide resolution to various prototype and production fleet vehicles.

**Design and Release Engineer - Powertrain Adaptation**, FCA US LLC – Auburn Hills, MI Sept 2016 – Jan 2020

- **Components:** Electronic Throttle Bodies, Gasoline Direct Injectors, Port Fuel Injectors, DEF Injectors
- Implemented effective change management processes to address change notices resulting from shifts in requirements or lessons learned, confirming seamless adaptation and continuous improvement.
- Developed precise component specifications and requirements by deconstructing vehicle performance objectives, guaranteeing accurate sizing and meticulous design of components.
- Engaged in extensive collaboration with suppliers and technical leads to obtain insights, thereby enhancing the quality documentation of components including DVPRs, DFMEAs, and Performance Specifications.
- Led supplier workshops to establish quality targets for warranty returns, effectively driving cost-saving initiatives that yielded approximately \$500k in savings over two model years.

**Apprentice Engineer II - EMS&C**, DENSO International – Southfield, MI Feb 2015 – Sept 2015

- Assembled and validated Model Year 15, 16, and 18 Fuel Charging Assemblies for the SV6 and V8 Ford programs
- Provided status reports on internal studies focusing on benchmarking and identifying potential design enhancements.

## Projects

**FSAE: Team President (1 year) / Brakes Captain (3 years) / Sponsor Relations (2 years)** [fsae.eng.wayne.edu](https://fsae.eng.wayne.edu)

- Oversaw team progress for the 2015 season, coordinating preparations for two SAE competitions. Assigned weekly tasks to divisions, ensuring timely completion, and reported bi-weekly updates to the Faculty Advisors. Additionally, managed budget allocations for divisions, subsystems, travel, testing, and shop expenses.
- Developed mathematical models using Vehicle Dynamic Equations to analyze braking forces and pressures in the brake system, while successfully designing and manufacturing Pedal Box Assemblies for three vehicle iterations.
- Secured new sponsorships totaling ~\$10,000 in monetary value and various prototype components. Redesigned the team website to prominently showcase sponsors, team progress, and notable achievements.

## Education

**Oakland University** – Master of Science, Mechatronics

December 2024

**Wayne State University** – Bachelors of Science, Mechanical Engineering

August 2016