

# M M TASIN FERDAOUS GALIB

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## EDUCATION

### University Of South Florida

Expected Dec 2026

*Bachelor of Science in Mechanical Engineering*

*Tampa, FL*

- Relevant Coursework: Computer Aided Design, Electrical Systems, Fluid Dynamics, Programming Concepts (MATLAB), Thermodynamics, Mechanical Engineering Lab, Kinematics and Dynamics of Machinery
- Awards: Engineering Futurescapes 2.0 Competition Runner-up, College of Engineering Dean's List

## Technical Skills

**CAD:** SolidWorks, Creo

**Programming:** MATLAB, Python, C/C++, Java

**Data/Quality:** Minitab, Statistical Analysis, FMEA, Technical Documentation

**Systems:** Service Engineering, Windows, macOS, Linux

## Experience

### Accelera by Cummins

Jan 2024 – Apr 2024

*Service Engineering Intern*

*Columbus, IN*

- Improved accessibility of the PD7000 Battery Electric School Bus interim catalog by integrating Creo 8 with 3D visualization and detailed part descriptions, increasing shop productivity by **25%**.
- Authored **12+** technical service bulletins, reducing maintenance turnaround time by **15%** across the PD7000 fleet.
- Diagnosed and resolved down-field bus issues via root-cause analysis, remote diagnostics, and on-site support, improving resolution speed by **30%** while aligning fixes with design/manufacturing constraints.
- Collaborated with cross-functional teams (design, manufacturing, quality) to implement service improvements and field modifications.

### Cummins Inc.

Aug 2023 – Jan 2024

*Quality Engineering Intern*

*Columbus, IN*

- Supported engine assembly quality across two manufacturing lines; collaborated with 5 cross-functional teams and 30+ stations to maintain **100%** compliance with quality standards.
- Tracked and improved Key/Critical/Major features using Excel & Minitab, driving a **15%** reduction in assembly defects and boosting reliability.
- Ensured **100%** inspection and shipping readiness of engines during quality engineer absences, protecting delivery and customer satisfaction.
- Conducted FMEA analyses and implemented corrective actions that improved first-pass yield across critical assembly stations.

## Projects

### AI-Enhanced Thermal Management System | SolidWorks, MATLAB, Python, Arduino

Jan 2025 – May 2025

- Designed modular battery-pack cooling in SolidWorks; simulated airflow/heat transfer to optimize fin geometry, cutting peak temperature by **18%**.
- Integrated Arduino-based sensors (temperature, current, ambient) for real-time monitoring and data logging.
- Built a MATLAB thermal model and validated against experiments with **<5%** error; trained a Python ML predictor to flag overheating **2 min** early for proactive control.
- Improved prototype battery lifespan by **12%**, demonstrating AI-driven energy management feasibility.

### Smart Garage Parking System | Python, OpenCV, Arduino/ESP32, MATLAB, SolidWorks

Jan 2025 – May 2025

- Prototyped guidance system with cameras + ultrasonics; achieved **>95%** vacancy detection accuracy using sensor fusion (MATLAB) to cut false positives by **33%**.
- Modeled and 3D-printed sensor housing in SolidWorks, reducing unit weight by **28%** and keeping per-node cost under **\$130**.
- Built LED wayfinding strip and mobile app mock-up, reducing spot-finding time by **40%** in prototype tests.

## Leadership & Awards

Engineering Student Council — USF | *Fundraising Chair*

May 2025 — Present

Florida Engineering Society — USF | *Vice-President*

May 2024 — Apr 2025

USF Green and Gold Presidential Scholarship | *Recipient*

Aug 2022 — Present