# Grigor Pahlevanyan

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## Education

**McMaster University**, B.Eng. in Mechatronics Engineering with Coop — Sept 2020 – May 2025

- GPA: 3.8/4.0
- **Coursework:** Control Systems, Software Development, Predictive Intelligence, Embedded Systems, Digital and Analog Circuit Design, Data Structures & Algorithms, Thermodynamics

## Professional Experience

**Tesla** | Power Electronics Program Manager Intern — Palo Alto, CA, May 2024 – Aug 2024

- Managed four vehicle projects, ensuring timely milestone delivery.
- Established clear communication channels across management layers.
- Developed project roadmaps and delegated tasks to cross-functional teams.
- Demonstrated adaptability and productivity in a fast-paced environment.
- Built stakeholder confidence through clear communication and consistent delivery.

**Thales** | Component Engineering Intern — Toronto, ON, May 2022 – Aug 2023

- Automated database migration of 1000+ components using Python and Selenium.
- Managed component databases and maintained detailed documentation.
- Processed ECN requests, ensuring compliance with technical specifications.
- Conducted obsolescence analysis to identify supply chain risks.
- Optimized component selection through cost and performance analysis.

## Extracurricular Experience

**Battery Workforce Challenge** | BMS Hardware Lead — Sept 2024 – Present

- Leading BMS hardware development, managing a team of 8 engineers.
- Coordinating with cross-functional teams for system integration and performance.

**Solar Car Project** | Electrical Manager — Nov 2021 – Aug 2024

- Managed electrical team workflow and inter-department coordination.
- Designed 110V high-voltage electrical architecture for power distribution.
- Developed Automatic Transfer Switch with integrated control systems.
- Created pre-charge circuit board for motor controller integration.
- Engineered 96V battery pack with comprehensive BMS implementation.
- Designed Power Management board for system-wide power control.
- Implemented Pedal Control program with analog-to-PWM signal conversion.
- Utilized Altium and Eagle for PCB design and manufacturing.
- Researched and implemented Maximum Power Point Tracker (MPPT) devices.

## Technical Projects

**Vehicle Safety Mechanism** | Independent Research Project — Nov 2021 – Present

- Invented a safety seat system using LiDAR for collision detection.

- Developed AI-driven algorithms for real-time seat position adjustment.
- Integrated NVIDIA Nano Jetson, AGX ORIN, and Oak-D Lite 3D camera.
- Engineered control systems using stepper motors and high-power transformers.
- Patent application in progress; documentation available at project portfolio.

**AI Meeting Assistant** | Capstone Project Lead — Sept 2024 – Present

- Developed meeting analysis system using OpenAI's Whisper for speech recognition.
- Implemented speaker diarization using pyannote for speaker identification.
- Integrated LLM models for automated meeting minutes and action items.
- Deployed solution on NVIDIA AGX ORIN for high-performance AI processing.
- Developed attendance tracking and key item extraction features.

## Publications

**Vehicle Seat Design to Mitigate Collision Impact on Occupant Safety** — July 2023

BRIC Symposium Proceedings
Certificate of Participation

## Technical Skills

**Software Development:** C++, C, Python, Julia, MATLAB/Simulink, JavaScript, Git, Docker

**Electrical Design:** Altium, Eagle, Fusion 360, LTSpice, NI Multisim

**Mechanical Design:** SOLIDWORKS, Autodesk Inventor, AutoCAD

**Machine Learning:** Neural networks, reinforcement learning, model predictive control

**Other Tools:** SAP ERP tool, CleaQuest, GitHub, Wireshark, JIRA, Confluence

**Other Skills:** Proficient in Linux and ROS