Grigor Pahlevanyan

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Education

BS **McMaster University**, 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 and algorithms, Thermodynamics

Work Experience

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

- Simultaneously managing four vehicle projects
- Delegating tasks and organizing project road-map
- Ensuring on time delivery of projects
- Communicating and inspiring confidence in multiple layers of management
- Excellent productivity in fast pace environment

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

- Managed component databases
- Created and updated ECN requests
- Conducted component obsolescence analysis
- Compared parts from various manufacturers and determined key benefits of each.
- Created a software program using Selenium library in Python to port down 1000+ parts from one database to another.

Extracurricular Experience

Battery Workforce Challenge, BMS Hardware Lead — Sept 2024 – Present

- Creating hardware components to support BMS functionality
- Managing a team of 8 engineers and working with cross-functional teams

Solar Car Project, Electrical Manager — Nov 2021 – Aug 2024

- Managing the electrical leads and workflow of the club.
- Developed the high voltage electrical architecture of the Solar Car. How the entire HV power is distributed.
- Created the Automatic Transfer Switch (Design and PCB)
- Created a pre-charge circuit board for motor controller
- Designed the high voltage battery pack, and researched about Maximum Power Point tracker (MPPT) devices
- Created a 96V Battery pack with a BMS.
- Created the Power Management board.
- Developed the Pedal Control program and circuitry (analog input from pedal, convert to PWM signal)
- Using Altium and Eagle for PCB designing.
- Working with high voltage systems of 110V

Projects

Vehicle Safety Mechanism [Personal Project] Nov 2021 – Present

Documentation

- Invented a new driver/passenger seat for maximal safety protection during vehicle collisions
- Developed an artificially intelligent system that uses LiDAR technology to predict collisions and adjust the position of all/any seat autonomously.
- Created software algorithms using C++ to work with microcontrollers, 360DEG LiDAR Sensor and camera.
- Used NVIDIA Nano Jetson, NVIDIA AGX ORIN, Oak-D Lite 3D depth camera, along with stepper motors and high power transformers.
- In the process of submitting a US patent.

AI Meeting Assistant [Capstone Project] Sept 2024 – Present

- Incorporated speech recognition using Whisper model from OpenAI
- Incorporated a speech diarization model from pyannote
- Using an LLM model to generate meeting related data (i.e. Meeting minutes, action items, attendance, key items, etc.)
- Using NVIDIA AGX ORIN as a remote server to do high speed computation with the AI models.

Publications

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

Grigor Pahlevanyan, Dr. Ishwar Singh

BRIC Symposium Paper Link

Certificate of Participation

Skills

Programming Languages: C++, C, Python, Julia, Matlab

Circuit/PCB Design: Altium, Eagle, Fusion 360

Mechanical CAD: SOLIDWORKS, Autodesk Inventor

Other Tools: NI Multisim, SAP ERP tool, GitHub

Other Skills: Proficient in Linux and ROS 1