

# Gian Mario Favero

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## Education

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**McGill University** Sept. 2023 - Present  
MSc. (Thesis) Electrical and Computer Engineering (GPA: 4.0) Montreal, QC  
- Supervised by Tal Arbel and Chris Pal.  
- Thesis: Diffusion models, focusing on computationally efficient and scalable implementations, controllable generation, and synthesis of medical images/video.

**University of Windsor** Sept. 2019 - Aug. 2023  
BAsC. Electrical and Computer Engineering (GPA: 99/100) Windsor, ON  
- Held highest GPA in class from 2019-2023.

## Publications

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\***Favero, G.**, \*Saremi, P., Kaczmarek, E., Nichyporuk, B., & Arbel, T. (2024). Conditional Diffusion Models are Medical Image Classifiers that Provide Explainability and Uncertainty for Free (*In Review*).

\***Favero, G.**, \*Ya, G., Luo, Z. H., Jolicoeur-Martineau, A., & Pal, C. (2024). Beyond FVD: Enhanced Evaluation Metrics for Video Generation Quality. *arXiv preprint arXiv:2410.05203*.

Sacchetti, L., Jianu, O., and **Favero, G.**, “Electrochemical Analysis of High-Capacity Li-Ion Pouch Cell for Automotive Applications,” *SAE Technical Paper 2021-01-0760*, 2021. DOI.

## Experience

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**Disney Research | Studios** March. 2025 - Present  
Research Intern (Incoming) Zurich, Switzerland

**Mila – Quebec AI Institute** Sept. 2023 - Present  
ML/AI Research Student Montreal, QC  
- Designed distributed training pipelines in PyTorch for controllable image and video diffusion.  
- Leveraged HPC clusters and multi-modal datasets to model neurodegenerative disease progression.  
- Developed open-source PyTorch implementations of Simple Diffusion and ControlNet for research use.

**Stellantis** Sept. 2022 - Dec. 2022  
Software Integration Intern Windsor, ON  
- Designed and built a new low-voltage system validation platform used in all North American facilities.  
- Created and maintained an organization-wide SharePoint project management hub.  
- Conducted failure root cause analysis using CAN tools on vehicles in the field.

**Tesla Inc.** Jan. 2022 - May 2022  
Software Integration Intern Palo Alto, USA  
- Performed firmware and hardware integration tasks on upcoming vehicle platforms.  
- Designed and built an automated system enabling rapid full-scale charging tests on vehicles.  
- Built new features and expanded subsystem test coverage on automated high-voltage system testing platforms.

**Human Systems Lab** Jan. 2021 - Aug. 2023  
Research Student Windsor, ON  
- Undergraduate researcher supervised by Dr. Bala Balasingam.  
- Developed EYEfollow, a diagnostic device using eye-tracking technology for fast eye assessments.

## Funding/Awards

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**FRQNT Master’s Scholarship:** Valued at \$20,000/year. One of ten students awarded in Quebec.  
**Governor General’s Silver Medal:** Highest academic standing in a 4-year Bachelor honors program  
**Governor General’s Bronze Medal:** Highest academic standing in their secondary school class