Augustin Marks de Chabris

www.linkedin.com/in/augustin-marks-de-chabris
705-822-6195
augustinlmdc@gmail.com

Education

ADMITTED, START: WINTER 2026

PhD, Engineering Science - *Laurentian University*

- **Research Focus**: AI-driven energy prediction and operational cycle detection for underground battery-electric and diesel vehicles.
- **Status**: MASc→PhD conversion approved.

SEPTEMBER 2024 - PRESENT

Master's of Applied Science - *Laurentian University*

- **Awards**: 2x Ontario Graduate Scholarship (OGS), 2024-2025 and 2025-2026; Graduate Academic Excellence Award 2025; Hatch Graduate Scholarship 2025.
- **Research Focus:** Developing AI models to predict fuel and energy consumption of Load-Haul-Dump (LHD) vehicles in underground mining operations.
- Conversion approved: MASc will convert to PhD beginning Winter 2026.

SEPTEMBER 2019 - MAY 2024

Bachelor of Computer Science (Honours) - *Laurentian University, Graduated: May 2024*

- Graduated with "Magna Cum Laude" honours.
- Awards: Academic Excellence Entrance Scholarship (2019-2020), Athletic Bursary (2019-2024).
- Undergraduate Thesis: "Applying Natural Language Processing to Detect Depression Severity using Social Media".

Experience

SEPTEMBER 2024-PRESENT

RAP Student - *CanmetMINING*

- Built duty-cycle segmentation pipeline for underground battery-electric LHD telemetry (time-series sensors); unsupervised approaches (e.g., clustering) to separate Loading / Hauling / Dumping / Transiting with explicit validation on labelled windows.
- Developed energy-prediction models (classical ML), reporting results in kWh/shift; compared against Canmet's Energy Consumption Model (ECM) as a physics baseline to quantify difference in performance and error bounds.
- Implemented reproducible experiments (versioned features, ablations on physics-informed vs. raw features, window sizes).

JULY 2024 - AUGUST 2024

Software Engineer Intern - *Hard-Line Solutions*

- Leveraged Generative AI and prompt engineering to accelerate application development, creating 6 internal tools in 2 months and significantly increasing deployment speed.
- Developed a data transfer tool to migrate development team wiki pages to Confluence, enhancing collaboration and documentation efficiency.
- Designed a PDF-to-JSON conversion program, improving the hardware team's ability to analyze and utilize data effectively.

JUNE 2023 - AUGUST 2023

Software Development Co-op Student- *Hard-Line Solutions*

- Increased threading software efficiency by 50% through algorithmic optimizations.
- Explored integration of Large Language Models (LLMs) into workflows, identifying avenues for enhanced productivity.
- Evaluated algorithms for hardware output analysis, contributing to improved decision-making processes.

Selected Publications, Talks & Professional Development

- Marks de Chabris, Augustin, Markus Timusk, and Meng-Cheng Lau. *"Operational Cycle Detection for Mobile Mining Equipment: An Integrative Scoping Review with Narrative Synthesis."*, published, October 2025
- Student Poster Competitor (Third Place), CIM Connect 2025 - *"Classifying Duty Cycle Activities of Battery-Powered LHDs Using AI"* (2025)
- Faculty Speaker, Laurentian University – *"Understanding and Leveraging GenAI"* (2025)
- Podcast Guest, QOL – *"Want to Know More About AI?"* (2025)
- Technical Speaker, Hard-Line Solutions – *"Leveraging Large Language Models"* (2023)
- Professional Development: Mining Diesel Emissions Conference (MDEC) (2024); Dev Fest Sudbury - AI in Mining (2024); AI4 (2023)

Skills

- Programming Languages: Python (machine learning, automation, data science)
- Machine Learning/Deep Learning: PyTorch, scikit-learn
- MLOps: Optuna, MLFlow

Volunteer Experience

- Chair-member, Laurentian Nordic Ski Club (2020–2024)
- Captain, Men's Varsity Nordic Ski Team (2020-2024)
- Co-Director, Unbreakable Spring Open Run (2017–2018)