Francisco Emiliano Lopez Saavedra

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EDUCATION & CERTIFICATIONS

Master of Science in Computer Science (Machine Learning) Sep. 2025-April 2027
Université de Montréal/Mila Montréal,QC

- **Scolarship:** Bourse d'exemption pour les étudiants étrangers, the highest academic merit scholarship for international students.

Bachelor of Science in Computer Science and Mathematics
Université de Montréal

TRAIL AI Practitioner Certification 2025
Mila

- Designed for AI specialists, this program allowed me to acquire **practical skills in fairness, transparency, explainability**, AI ethics, and **responsible generative AI**, to advance responsible AI initiatives.

EXPERIENCE

Data Science Intern Jan. 2025 – April 2025
ÉAU (Écosystèmes Alimentaires Urbains) | Supervised by Prof. Fabian Bastin, Université de Montréal Montréal, QC

- **Designed and developed** a **full-stack web interface** using **React.js** and **InfluxAPI** to visualize and control the anomaly detection process, enabling selective removal of erroneous data and improving data reliability.
- **Built and deployed** an **ETL pipeline** from InfluxDB to a PostgreSQL database using Python, integrating real-time anomaly detection that **reduced** sensor data noise by over **50%**.
- **Engineered and evaluated** machine learning models for **time series forecasting**, predicting system performance using real-time environmental sensor streams.

PROJECTS

Downscaling Climate Models

- **Enhanced** climate modeling accuracy at finer scales by integrating **high-resolution datasets** and **topological indicators** into large-scale simulations. Using advanced deep learning architectures, including **ResNet** and **U-Net**, to refine regional and community-level climate projections. (Detailed project explanation available upon request.)
- **Built and optimized** a modular deep learning pipeline using **PyTorch** and **NumPy**, enabling efficient experimentation and reproducibility. Designed preprocessing workflows and training routines for large-scale geospatial datasets.
- **Collaborated** on a 4-month project with a team of **5 members** under the supervision of **Mila,Quebec AI Institute**, focusing on applying **deep learning techniques** to enhance climate model precision.

Predictive Modeling for Maternal and Infant Health

- **Conducted** a study analyzing the relationship between maternal factors and low-birth-weight infant outcomes to evaluate predictive models and gain actionable insights.
- **Explored** a range of predictor variables through **Exploratory Data Analysis**, utilizing **statistical analysis in R**, hypothesis testing, and model selection techniques. Implemented models such as **logistic regression** and **GLMs** to assess the significance of variables and predictive performance.

SKILLS

Languages : Python, JavaScript, TypeScript, Java, C++, R, Matlab, SQL, HTML, CSS

Tools/Frameworks : GitHub, Linux, React.js, Node.js, Flask, FastAPI, TensorFlow, PyTorch, Keras, Numpy, Pandas, Scikit-learn, Unreal Engine, InfluxDB

Skills : Software Development, Machine Learning, Deep Learning, Data Analysis, Time Series Forecasting, NLP, ETL Pipelines, Data Visualization, Model Deployment, Exploratory Data Analysis, Statistics

Human Languages : Spanish, English, French