

Francisco Emiliano Lopez Saavedra

☎ (450)626-8649 | 🌐 e-lopz.github.io | ✉ emiliano.lopez2404@gmail.com | 📍 Montreal, QC

EDUCATION

Bachelor of Science in Computer Science and Mathematics

University Of Montreal

Montreal, QC

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

EXPERIENCE

Data Science Intern

Jan. 2025 – April 2025

ÉAU (Écosystèmes Alimentaires Urbains) | Supervised by Prof. Fabian Bastin, Université de Montréal

- **Developing** an SQL database to collect, clean, and update data from aquaponics systems in real time.
- **Working closely** with ÉAU to enhance data management processes for their mineralization system, enabling more accurate performance evaluation.
- **Integrating** the database with the companys existing web interface for streamlined data access and visualization.
- **Exploring** preliminary machine learning models to predict system performance based on collected data.

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.)
- **Developed** methods to incorporate topological data (e.g., **ERA5**) into global-scale climate datasets, improving the resolution and accuracy of simulations. Applied **advanced matrix manipulation techniques** and designed **ETL pipelines** for efficient data processing and integration.
- **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 (EDA)**, utilizing **statistical analysis in R**, hypothesis testing, and model selection techniques. Implemented models such as **logistic regression** and **GLMs** to assess variable significance and predictive performance.
- **Led** a team of 3 students to advance the understanding of maternal and infant health by critically examining the **ethical implications** of the study alongside the statistical findings.

CERTIFICATIONS

TRAIL AI Practitioner Journey

Mila

Montreal, QC

- 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.

SKILLS

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

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

Technical Skills : Data Analysis, Machine Learning, Natural Language Processing (NLP), Deep Learning, MLOps, Exploratory Data Analysis (EDA), ETL, Data Visualization, Biostatistics, Model Deployment, Statistics

Human Languages : Spanish, English, French