Lucie Huamani-Cantrelle

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Professional Summary

Master's student in **Life Sciences Engineering** at EPFL with a minor in **Data Science**, passionate about applying **Machine Learning and AI** to solve complex scientific challenges. Skilled in **data engineering, predictive modeling, and computer vision**, with hands-on experience in **cloud computing**. Strong interdisciplinary background combining **life sciences, data science, and computational modeling**, with a proven ability to work in diverse teams and deliver results in collaborative environments.

Education

École Polytechnique Fédérale de Lausanne (EPFL) *2024 – Present*
Master of Science in Life Sciences Engineering, Minor in Data Science

- **Relevant coursework:** Machine Learning, Foundation Models and Generative AI, Applied Data Analysis, Applied Biostatistics, Modern Natural Language Processing, Genomics and Bioinformatics.

École Polytechnique Fédérale de Lausanne (EPFL) *2020 – 2024*
Bachelor of Science in Life Sciences Engineering

- **Relevant coursework:** Machine Learning, Applied Software Engineering.

Experience

Research Intern – Mathis Group *Geneva, Switzerland*
EPFL *Jun – Aug 2024*

- Conducted research on **multimodal machine learning benchmarks** for species and behavior recognition using Vision-Language Models.
- Built scalable **evaluation pipelines** with **Run:AI (RCP)** and containerized workflows, contributing to reproducible ML experiments.

Student Teaching Assistant *Lausanne, Switzerland*
EPFL *Feb 2025 – Present*

- Mentored students in physiology and algebra, strengthening **scientific communication and teaching skills**.

Science Workshop Facilitator *Switzerland*
Festival Scientastic – EPFL (Lausanne and Sion editions) *Nov 2024 & May 2025*

- Led interactive workshops introducing children to the **scientific method**.

Projects

Movie Violence and Crime Correlation Analysis *EPFL*

- Applied **ML, NLP, and sentiment analysis** to model correlations between violent movies and crime statistics.

Machine Learning for Plasma Transition Detection *Swiss Plasma Center*

- Developed **time-series models** to detect plasma transitions, improving forecasting accuracy in fusion research.

Cadmium Catcher Live Biotherapeutic Product *iGEM – EPFL*

- **Developed and coded the official website**, creating visual and written content to communicate complex scientific concepts.
- Produced **educational materials** for outreach, contributing to the team's award-winning science communication.

Technical & Soft Skills

Programming: Python, R, SQL, HTML, CSS, ReactJS

ML & Data Science: Scikit-learn, TensorFlow, PyTorch, Pandas, NumPy, OpenCV, Time-Series Analysis

Cloud & MLOps: Run:AI (RCP), Git, Docker, LaTeX

Data Visualization: Matplotlib, Seaborn, Plotly, Excel, Dashboard design

Soft Skills: Scientific Communication, Teamwork, Project Management, Problem solving, Teaching & Mentoring

Achievements & Awards

Awards for the Cadmium Catcher Live Biotherapeutic Product *EPFL – iGEM 2023*

- **Gold Medal – iGEM Competition** — Awarded for excellence in synthetic biology innovation.
- **Best Education Prize – Winner** — Awarded for excellence in science communication and outreach.
- **Best Therapeutics Project – Nominee** — Recognized among top innovative therapeutic solutions.
- **Safety and Security Award – Nominee** — Recognized for advancing risk management in bioengineering.

Activities & Volunteering

Student Representative *EPFL 2023 – Present*

- Organizing career-oriented events and acting as a liaison between students and faculty.

Science Outreach – Festival Scientastic *EPFL 2024*

- Facilitated workshops to introduce children to the scientific method.

Volunteer Firefighter & Lifeguard *France 2019 – 2020*

- Ensured public safety and emergency response in high-stress environments.

Languages

French: C2 **Spanish:** C2 **English:** C1