

# LUCIA EVE BERGER

*lucia.berger@mail.mcgill.ca, Montreal  
Citizenship: Canadian, USA & Italy.*

## EXPERIENCE

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HINGE HEALTH

*Senior Machine Learning Scientist*

Canada

02.2025 –

- Spearheaded the deployment of LLM-personalized exercise therapy systems for high risk patients.
- Implemented NLP models (BERT, topic modeling) to analyze provider–patient conversations, enhancing communication strategies, and physical therapy compliance.
- Built unsupervised/supervised models for early-experience user segmentation and best-next action. Models informed A/B testing of communication strategies, accelerating model optimization and engagement outcomes.

MICROSOFT

*Research Scientist (I, II)*

*Research Intern*

Canada

2021 – 02.2025

2019 – 2020

- Spearheaded the development of multimodal AI GPT-powered toolkits, empowering 500+ users to generate code.
- Conducted research on prompt engineering, image representation, and LLM evaluation, driving product optimization.
- Designed responsible AI initiatives, reducing user harm by 30%, significantly enhancing user safety and trust.
- Improved Automatic Speech Recognition models by 5% in accuracy using cutting-edge techniques
- Earned two promotions in recognition of exceptional contributions in 2021 and 2024 (acquired through Nuance).

GERMAN RESEARCH CENTER FOR ARTIFICIAL INTELLIGENCE WITH SIEMENS

Germany

*Graduate Researcher*

2017 – 2019

- Implemented a python framework for traffic-sign recognition, 10% improvement using deep learning.
- Enhanced software capabilities with weather forecasting and safety regression functionalities under diverse conditions.
- Built real-time sensor monitoring REST APIs, meeting customer and latency specification.

GENERAL ELECTRIC

*Software Engineer, Edison Engineering Rotational Program of 2 years.*

Canada

2015 – 2017

## SKILLS

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PROGRAMMING: Python, Java, C/C++.

RESEARCH AREAS: MultiModal AI, Responsible AI, LLM Prompting, Automatic Speech Recognition, Computer Vision.

LANGUAGES: Fluent in English, Spanish and French. Conversational in Italian and German.

## EDUCATION

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MILA, QUEBEC INSTITUTE FOR AI: UNIVERSITY OF MONTREAL, MCGILL UNIVERSITY (2024): MS in ML Canada

ERASMUS MUNDUS JOINT MASTER: TU BERLIN & KAISERSLAUTERN, FU BOZEN(2019): MS in CS/SE. Germany, Italy

MCGILL UNIVERSITY, (2015): BA in CS & Economics. Year of AP credits, bursary. 8-month study in Mexico. Canada

## PUBLICATIONS

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ARXIV <i>Diagnosing COVID-19 Severity from Chest X-Ray Images Using ViT and CNN Architectures.</i>	2025
NEURIPS <i>Improving Harm Reduction Tactics For Multi-Modal Software Solutions: WiML Conference Poster.</i>	2024
ACOUSTICS WEEK <i>Enhancing Automatic Speech Recognition of a Regional Dialect: A Pilot Study with Québécois.</i>	2023
SOFTWARE FOR ML <i>Refining a Data-Driven Model Uncertainty Framework with Traffic Sign Recognition.</i>	2022
EUROPEAN CONFERENCE ON SIGNAL PROCESSING <i>Non-Intrusive Estimation of Speech Signal Parameters.</i>	2021