Lucia Eve Berger

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Summary

I am a results-driven Research Scientist with five-years experience in Machine Learning and Software Engineering. I have proven track record working in international environments in North America and Europe. I am committed to continuous learning demonstrated by my participation in Women in STEM and mentorship of undergraduate students.

Experience

Microsoft, Research Scientist, Copilot Applied AI 2019 — current

Generative Artificial Intelligence Montreal

- Engineered multi-modal, AI-powered (GPT, GPT-v) toolkits to aid software end-users complete complex tasks.
- Conducted prompt-engineering, quantitative experimentation and validation of LLMs.
- Wrote and reviewed code in python, and java.

Automatic Speech Recognition (ASR)

- Built and adapted deep-learning models for ASR. Accuracy gain of 5%.
- Implemented state-of-the-art techniques to reduce error, inference time and computation.

Skills: python, pytorch, Conformer RNNTs, LLMs, programming. Promoted from intern to Research Scientist.

German Institute for Artificial Intelligence with Siemens, Research Engineer 2017 — 2019

Computer Vision Berlin

- Led implementation of a python framework for traffic-sign recognition, 10% improvement using CNNs.
- Expanded the software's capabilities, incorporating functionalities for weather forecasting and safety regressions.
- Constructed REST APIs for monitoring sensor data in real-time, meeting customer and latency specification.
- Managed two interns including reporting and delegation of tasks and scheduling.

Skills: python, CNNs, benchmarking metrics, decision trees, research, leadership.

General Electric, Software Engineer 2015 — 2017

Software Engineering Montreal

- Participated in the Edison Engineering Development Program, a two-year corporate rotational program focused on developing technical excellence. Selected out of 200 applicants to receive engineering experience and training.
- Partnered with teams across disciplines to implement requirements, design features and increase the dependability of light monitoring systems using python and swift.
- Applied statistical techniques to conduct topic modelling on an unstructured corpus, increasing business value of asset.

Skills: java, python, testing, quality assurance, natural language processing.

Technical Skills

Tools: Java, Python, SQL (Postgres), JavaScript, Pytorch, Tensorflow, Azure ML.
Spoken Languages: Native: English, C2: French, Spanish, B2: German, A2: Italian.

Education

Quebec Institute for Artificial Intelligence (MILA), University of Montreal (2024) Montreal
Specialized Master in Machine Learning (DESS) (3.6/4.0). Full Scholarship ($3000/2 years). Completed 5 courses/Project.

TU Berlin, TU Kaiserslautern, FU Bozen (Erasmus Mundus Joint Degree) (2019) Germany, Italy
Master in Computer Science & Software Engineering (4.0/4.0). Full Scholarship ($48000/2 years). Wrote/Defended Thesis.

McGill University (2015) Montreal
Bachelor in Computer Science & Economics. Entrance with full-year of AP credits (Lexington High School, MA).
Eight month COOP in QA at Pratt & Whitney Canada (2014). Eight month study-abroad in Guadalajara, MX (2013).

Recent Machine Learning Projects

Acoustics Week Canada Publication (2023): Authored ASR adaptation to regional French and dysphonic speech.

Software Engineering for Machine Learning (2022): Delivered poster on ML safety with Computer Vision.

European Conference on Signal Processing (2021): Authored speech estimation paper using CNNs/RNNs.

Self-supervision Feasibility of Cloudcast (2021): Built project on video interpolation for cloud cast prediction.