Lucia Eve Berger

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Summary

Results-driven Research Scientist at Microsoft with five-years experience in Machine Learning and Software Engineering.

Experience

Microsoft, Research Scientist 2019 — current

Automatic Speech Recognition (ASR) Montreal

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.

Generative Artificial Intelligence

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.
Skills: python, pytorch, Conformer RNNTs. Promotion from intern to contractor to Research Scientist.

German Institute for AI 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.
Skills: python, CNNs, benchmarking metrics, decision trees, research.

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.

Education

Quebec Institute for Artificial Intelligence (MILA), University of Montreal (2023) Montreal
Specialized Master in Machine Learning (DESS) (3.7/4.0), Full Scholarship ($3000/1 year), Five courses.

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), Thesis-based.

McGill University (2015) Montreal
Bachelor in Computer Science & Economics. Entrance with full-year of AP credits (Lexington High School, MA).
Eight month full time Internship in Quality Assurance at Pratt & Whitney Canada (2014).

Technical Skills

Tools: Java, Python, SQL (Postgres), JavaScript, Pytorch, Tensorflow, Azure ML.
Spoken Languages: English, French (C2), Spanish (C2) (8 month study-abroad Mexico), German (B2), Italian (A2).

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.