

# Lucia Eve Berger

APPLIED MACHINE LEARNING · SOFTWARE ENGINEERING

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## Work Experience

### Microsoft (Nuance)

Montreal, Canada

RESEARCH APPLICATION SCIENTIST

Aug 2019 - July 2020, Apr. 2021 - current

- Programmed software for reliable end-to-end Automatic Speech Recognition.
- Optimised pipelines to capture system metrics for shareholder's use. Tasks included tuning systems for better performance in cases of overlapped speech (30% improvement), multi-speaker conditions and different audio input.
- Developed a custom acoustic estimator and voice-activity classifier using deep learning, and tested under difficult noise conditions, across languages and lower latency.
- Deployed pipeline for measuring diarization and speaker error rate. Reviewed code and provided development support in python, lua, and java.

### Siemens Energy & German Institute for AI (DFKI)

Berlin, Germany

JUNIOR SOFTWARE ENGINEER

Jan. 2017 – Aug. 2019

- Constructed a java API for monitoring sensor data for real-time consumption by different applications.
- Enhanced the querying and aggregation of such data to meet customer specifications. Task included preparing datasets (clustered, augmented, analysed) for unsupervised learning tasks.
- Responsible for two interns, including reporting and delegation of tasks, and oversaw all scheduling.

### General Electric Canada

Montreal, Canada

SOFTWARE ENGINEER (EEDP)

May. 2015 - Nov. 2016

- Participant in the Edison Engineering Development Program (EEDP), a corporate rotational program focused on developing technical excellence. Selected out of 200 candidates and earned graduate credits in engineering disciplines.
- Built new features to increase the dependability of light monitoring systems (python, swift). Improved codebase and lighting prototype with micro-services, achieving a cost-savings of over 30%.

## Skills

**Coding** python (django, flask) , java, javascript (angular.js), SQL, *familiar:* C/C++, ruby, lua.

**ML/DL** pandas, numpy, sklearn, keras, tensorflow, *familiar:* pytorch.

**Languages** English (native), French (C1), Spanish (C1), German (B2), Italian (A2)

## Teaching, Projects & Awards

2021	<b>Champlain College</b> , 12-month part-time instruction of Java I, II & Operating Systems at the CEGEP level.	Montreal, Canada
2021	<b>McGill University</b> , 8-month Research Project, flexible API that geo-located & visualized tweets.	Montreal, Canada
2015	<b>Pratt &amp; Whitney Canada</b> , 8-month Undergraduate Engineering Coop: system requirements for QA.	Montreal, Canada
2022	<b>SEMLA 2022 Poster</b> , Refining a Data-Driven Model Uncertainty Framework with a Traffic Sign Recognition.	Montreal, Canada
2021	<b>RBC Future Launch Scholarship</b> , Two time recipient, awarded for academic achievement (\$3000).	Montreal, Canada
2021	<b>Teaching Review Finalist</b> , Received 100% (Java) and 94.7% (Operating system) on student review.	Montreal, Canada
2017	<b>Erasmus Mundus Full Scholarship</b> , Awarded full scholarship for Master's degree. (€48,000).	Bozen, Italy
2015	<b>APEX Startup Competition Winner</b> , Awarded for energy gamification application (\$1000).	Fredricton, Canada

## Education

### MILA (Quebec Artificial Intelligence Institute), University of Montreal

Montreal, Canada

SPECIALIZED MASTER DEGREE (D.E.S.S) IN MACHINE LEARNING

Sep. 2020 - Sep. 2023 (expected)

- Project mentor for Natural Language Understanding with Deep Learning, McGill University, (GPA: 3.7/4.0).

### TU Berlin, TU Kaiserslautern, FU Bozen

Berlin, Germany & Bozen, Italy

M.S. EUROPEAN JOINT MASTER DEGREE IN SOFTWARE ENGINEERING & COMPUTER SCIENCE

Aug. 2017 - Aug. 2019

- Admission rank: 1st of 1200 applicants. Thesis successfully defended with Fraunhofer IESE (GPA:4.0/4.0).

### McGill University

Montreal, Canada

B.A. COMPUTER SCIENCE AND ECONOMICS

Sep. 2011 - May. 2015

- 8-month technical exchange in Universidad Auto de Guadalajara, Mexico.