



LUCA ENGEL

MSc in Computer Science at EPFL
Specialization in Data Analytics

Portfolio: <https://www.luca-engel.ch/>

CONTACT

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Please contact me through the contact page of my portfolio or LinkedIn.

ABOUT

Data Scientist specialized in NLP and applied ML, with an EPFL MSc in Computer Science (high distinction, GPA 5.39/6). Experienced in AI solutions for healthcare, analytics, and optimization. Bilingual in German & English, fluent in French.

SKILLS

Technical

NLP • LLMs • RAG • GraphRAG • Knowledge Graph • Fine-Tuning • Machine Learning • REST APIs • Software Engineering • Scrum • Python • Java

Soft

Independent • Teamwork • Analytical Thinking • Communication

LANGUAGES

German, English: Native

French: C1

Italian: B1

ACTIVITIES

J+S Certified Tennis Coach

European Youth Parliament

Swiss German Association (EPFL)
Coach

EDUCATION

EPFL, Lausanne Switzerland

Master's Degree in Computer Science

09/2023 – 09/2025

GPA: 5.39 / 6

- Specialization in Data Analytics
- Master's Thesis with ELCA – Grade: 6 / 6

Bachelor's Degree in Computer Science

09/2020 – 07/2023

GPA: 5.47 / 6

ACADEMIC PROJECTS

Recommender System for Books

- Built and compared recommender systems for predicting book ratings on a sparse user-item dataset.
- Evaluated ALS, k-NN user- and item-based collaborative filtering (CF), and a metadata-enhanced hybrid CF model, achieving an RMSE of 0.82
- Grade: 5.25 / 6

Evaluating the Novelty of Knowledge in Texts with LLMs

- LLM-based novelty detection in text
- Developed a MCQA-based method to aid data curation for LLM training & RAG pipelines
- Grade: 6 / 6

Text Retrieval

- Compared text retrieval approaches including BM25 and embedding-based
- Achieved a Recall@10 score of 0.77
- Grade: 5.75 / 6

LLM Fine-Tuning for Scientific Question Answering

- Applied fine-tuning, DPO, prompt engineering, RAG, and quantization, improving GPT-2 model performance on scientific MCQA dataset from 29.1% to 33.4% accuracy
- Grade: 5.25 / 6

WORK EXPERIENCE

ELCA Informatik AG, Zurich Switzerland

Machine Learning Engineering Internship – EPFL Master's Thesis

03/2025 – 09/2025

- Developed tariff code prediction models under severe class imbalance, achieving a Macro F1 score of 83%
- Created a Text2Cypher system and dataset to translate textual medical treatment rules for automated invoice compliance checking with an execution accuracy of 91%
- Explored the potential of GraphRAG for medical invoice verification, achieving an accuracy of 54.5%
- Authored and defended an EPFL Master's thesis based on the internship work.
- Grade: 6 / 6

think beyond ag, Bern Switzerland

Full Stack Software Engineering Internship

07/2024 – 09/2024

- Co-developed a survey and analytics platform in a Scrum team
- Created a modular database schema to efficiently create and evaluate surveys
- Fine-tuned an LLM for sentiment analysis service reviews, achieving an F1 score of 87%

Software Engineering Internship

06/2022 – 09/2022

- Co-developed a traffic control system to optimize occupancy of parking garages

EPFL, Lausanne Switzerland

Student Assistant

02/2022 – 02/2024

- Software Construction (Scala)
- Parallelism and Concurrency (Scala)
- Functional Programming (Scala)
- Object-Oriented Programming (Java)