

Ronald Domi

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Zurich, Switzerland

Education

- M.Sc. in AI/ML & Bioinformatics from UZH in Zurich Graduating 2026
- B.Sc. in Computer Science from UGA in Grenoble, France Graduated 2023

Publications

- Domi, R., No  , F., Leary, P. *et al.* GEO uploader: simplifying the data deposition in the GEO repository. *BMC Bioinformatics* (2026). <https://link.springer.com/article/10.1186/s12859-026-06466-4>

Projects

Multivariate correlation analysis of music similarity

- Developed audio similarity metrics using Python, Pandas, and NumPy that outperformed traditional methods by being specifically tailored to music similarity.
- Used Matplotlib and Pandas for exploratory analysis and pipeline performance visualization; validated approach against state-of-the-art methods from HuggingFace.
- Implemented a grid search for best parameter selection to achieve highest accuracy on our pipeline for music similarity.
- Developed a full-stack web application using NextJS and FastAPI to showcase and interact with the similarity pipeline.

AI spoof detection model

- Build a CNN-based and an RNN-based deep learning model to detect spoofed voices on a dataset using Python, PyTorch and Scikit-learn to have a CNN/RNN comparison.
- Implemented end-to-end pipeline including data processing (Pandas, NumPy) model training and data/metric visualization (Matlab).
- Performed data normalization, augmentation, caching, and batching to optimize model training and inference.

Other Machine Learning projects

- Implemented a chatbot capable of handling multimodal questions based on a knowledge base using Python/PyTorch/NLP.
- Cell nucleus image segmentation Visual Neural Network with Python/Pytorch/Matplotlib/Numpy.

Work History

Full Stack Developer at ETHZ - FGCZ, Zurich

09/2024 to Current

- Build a data-processing system (Python Flask, HTML, CSS, JavaScript) that streamlined genomics data submission, reducing manual processing overhead.
- Rewrote legacy system with core developer using NextJS and FastAPI.
- Designed and implemented RESTful APIs for inter-service communication and managed relational database schema in SQLite.
- Participated in regular meetings with stakeholders and explained them the limitations and workarounds of the software.
- Wrote the manuscript of GeoUploader software as an application note in BMC Bioinformatics.

Front-End Software at Ontopic, Bolzano, Italy

05/2021 to 12/2021

- Implemented an automated testing system for our Angular project using Jasmine.
- Performed analysis, testing and debugging on the core product code.
- Maintained a knowledge base of the production code for documentation and maintenance.

Front-End Software, Tirana

04/2018 to 08/2019

- Executed the implementation of the UI using HTML/SCSS in collaboration with the design team for a musical voting TV show.
- Created and maintained relational database schema with SQLite and various API endpoints based on evolving client requirements.
- Translated client requirements to business software logic.

Languages

- English (Professional)
- French (Professional)
- German (Conversational)
- Italian (Conversational)