



# Platon Frolov

## M.Sc. Data Science student

- [✉ pfrolov@ethz.ch](mailto:pfromov@ethz.ch)
- [📞 +41774245664](tel:+41774245664)
- [/github/pfromov](#)
- [/linkedin/pfromov](#)
- [/personal webpage](#)

## WORK EXPERIENCE

### Lakera AI - Part-time ML Engineer + Master thesis student

Sep 2023 - Now

- Developing an automatic data augmentation technique to generate richer data for prompt injection classifiers. Already resulted in better model performance.
- Researching the robustness of Large Langauge Models (LLMs) to symbolic prompt injections and how we could defend against them (Master Thesis).

### AlterEgo Technologies AG - Software/ML Engineer Intern

Mar 2023 - Aug 2023

- Involved in building an online 3D virtual fitting room from zero to release.
- Used computer vision to recognize cloth panels (i.e. sleeve, cuff) in sewing patterns.
- Modelled the sewing of clothes as a mathematical optimization problem.
- Built and designed the pipeline to go from sewing patterns to 3D simulated garments.
- Resulted in highly accurate virtual 3D reconstructions of cloths.

### ETH Zürich, TIM Chair - Research Assistant

Feb 2022 - Mar 2023

- Implemented cognitive experiments (e.g. Tower of Hanoi) in Javascript for researchers in the chair.
- Wrote Python scripts to extract, process and analyze data from experiments. Resulted in clean Excel sheets with the relevant data for the researchers to work with.
- Implemented an automatic way of generating reports to show individual performance of each participant in the experiment. Led to reduction in manual work.

### University of Twente, BMS Lab - Assistant Developer

Nov 2019 - Aug 2021

- Worked on a tool to transcribe and annotate interview audio files.
- Refactored the codebase for better maintainability.
- Implemented functionality to store files in a database, annotate speaking turns and visualize data. Led to an easier way of collecting quantitative data from interviews.

## PROJECTS

### Data Science Lab (for Restor Foundation)

Sep 2022 - Jan 2023

- Built a pipeline to monitor tree restoration sites from aerial drone imagery using computer vision techniques.
- Optimized a tree segmentation model yielding a better IoU score and less memory requirements to run the model.
- Researched feature generation methods, unsupervised clustering methods, and their performance on our data.
- Achieved an ARI score of 0.5437 and an accuracy score of 0.77 on the clustering.

### UTML ↗

Feb 2021 - May 2021

- Built a diagram drawing tool from scratch for System Design/Database courses at the University of Twente (UT).
- Implemented features such as creating, resizing, moving, renaming and serializing objects, drawing edges, panning and zooming.
- Resulted in an easy-to-use tool specifically tailored for teaching purposes at the UT. The tool is currently in use in exercise classes and exam settings in several courses.

## SKILLS

**General:** Teamwork, Machine learning, Computer Vision, Deep Learning, Statistics, Optimization, Algorithms, Graph Theory, Software Engineering

**Programming:** Python, Java, PyTorch, Pandas, Numpy, OpenCV, Matplotlib, Sci-kit learn, SQL, Spark, Haskell, React, Linux, HTML, CSS, JavaScript, PHP

**Other:** AWS (S3 and Lambda), Git, Docker, Blender

## ABOUT ME

I am a Dutch graduate data scientist based in Zürich. With my background in computer science and a strong passion for mathematics, I specialize in machine learning, computer vision, and statistics. My goal is to leverage these skills to uncover valuable insights from data and contribute meaningfully to the field of data science.

## EDUCATION

### M.Sc. Data Science (Minor in Finance)

ETH Zürich, Switzerland  
Sep 2021 - Now

### Honours B.Sc. Philosophy

University of Twente, the Netherlands  
Feb 2020 - Aug 2021

### B.Sc. Computer Science (Minor in Mathematics)

Graduated with distinction  
University of Twente, the Netherlands  
Sep 2018 - Aug 2021

## EXTRA CURRICULAR

Sep 2017 - East Sweden Hack - Participant

Jul 2017 - 20Creathon - Won ticket to East Sweden Hack

Nov 2015, 2016 - Twentse Wiskunde Estafette (Math olympiad Twente) - Winner

## LANGUAGES

- Dutch - Native
- English - Fluent
- German - Fluent
- French - Intermediate
- Russian - Intermediate