Angéline Nathalie Pouget

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Education

ETH Zürich Sep 2022 – current
Master of Science in Data Science *Zürich, Switzerland*
- Strong focus on reliable & trustworthy AI research (current weighted average: 5.82 / 6.00).
- Full scholarship through the Excellence Scholarship & Opportunity Programme of ETH Zürich.

ETH Zürich Sep 2018 – Aug 2021
Bachelor of Science in Electrical Engineering and Information Technology *Zürich, Switzerland*
- Graduated with distinction (weighted average: 5.79 / 6.00).
- Awarded merit-based scholarship by the Werner Siemens-Foundation and the Swiss Study Foundation.

Research & Teaching Experience

Research Intern and Visiting Graduate Student May 2024 – current
Vector Institute and University of Toronto *Toronto, Ontario, Canada*
- Supervisors: Prof. Nicolas Papernot (University of Toronto), Prof. Florian Tramèr (ETH Zurich)
- Enhancing AI model utility and reducing deployment risks by ensuring that models are only used in contexts that they are suitable for to limit unintended effects (e.g., model biases or performance issues).

Student Researcher Sep 2023 – May 2024
Google DeepMind *Zürich, Switzerland*
- Working with: Ibrahim Alabdulmohsin, Lucas Beyer, Xiaohua Zhai and others (see preprint)
- Showed that filtering contrastive vision-language model training data to English image-text pairs disadvantages communities of lower socioeconomic status and impacts cultural understanding.
- Highlighted that pretraining foundation models with global, unfiltered data can improve cultural understanding without sacrificing performance on popular benchmarks such as ImageNet.

Research Assistant Feb 2023 – May 2024
Secure, Reliable, and Intelligent Systems Lab, ETH Zürich *Zürich, Switzerland*
- Supervisor: Prof. Martin Vechev
- Highlighted fundamental issues with current fair representation learning (FRL) evaluation paradigms.
- Proposed criteria to refocus evaluations on performance across various transfer tasks and introduced TransFair, a benchmark with novel variations of popular FRL evaluation datasets.

Teaching Assistant Sep 2019 – Jun 2023
ETH Zürich *Zürich, Switzerland*
- Prepared and taught weekly exercise sessions, held exam preparation courses, served as liaison between professors and students, collaborated with professors and senior researchers across 4 institutes.
- Lectures: Introduction to Machine Learning (Spring 2023), Signals and Systems Theory (Fall 2022, Fall 2020), Electromagnetic Waves and Fields (Spring 2021), Digital Circuits (Fall 2019)

Bachelor Project Student Feb 2021 – Jul 2021
IBM Research *Rüschlikon, Switzerland*
- Supervisors: Abbas Rahimi, Michael Hersche
- Developed a weightless RNN for sparse factorization problems outperforming state of the art models especially for problem sizes larger than 10^9 (accuracy consistently at 1.0).
- Reduced the parameter count of the MobileNet-V2 classifier by 99.79%.

Student Researcher Sep 2020 – Jan 2021

Computer Vision Lab, ETH Zürich *Zürich, Switzerland*

- Supervisor: Prof. Radu Timofte
- Collected and labelled a camera scene detection dataset of 11k images in 30 categories.
- Developed an NPU-friendly CNN model with top-1 and top-3 accuracy of more than 94% and 99%.

Additional Work Experience

Forward Deployed Engineer Intern Jun 2023 – Sep 2023

Palantir *London, United Kingdom*

- Developed and managed four different use cases in close collaboration with internal and client stakeholders during scoping, development and go-live.
- Worked closely with product development teams to ensure that client feedback is leveraged to continually improve Palantir's product offerings.
- Onboarded two new client team members.

Fellow Intern Feb 2022 – Apr 2022

McKinsey & Company *Zürich, Switzerland*

- Solved challenging business problems across two different industries and companies in close cooperation with clients and colleagues.

Structured Products Analyst Intern Jul 2021 – Jan 2022

Goldman Sachs *London, United Kingdom*

- Developed and priced novel cross asset structured products and derivatives solutions.

Volunteering Experience

Managing Partner Jun 2022 – Jun 2023

Founderful Campus *Zürich, Switzerland*

- Led a team of seven people in a student-led VC fund that supports founders of technical startups from ETH, EPFL and HSG with initial capital and mentorship.
- Invested CHF 200'000 in eight different startups over the course of two semesters.

Research Publications & Preprints

Angéline Pouget, Lucas Beyer, Emanuele Bugliarello, Xiao Wang, Andreas Peter Steiner, Xiaohua Zhai, Ibrahim Alabdulmohsin. "No Filter: Cultural and Socioeconomic Diversity in Contrastive Vision-Language Models". arXiv Preprint 2405.13777. May 2024.

Angéline Pouget, Nikola Jovanović, Mark Vero, Robin Staab, Martin Vechev. "Back to the Drawing Board for Fair Representation Learning". arXiv Preprint 2405.18161. May 2024.

Michael Hersche, Aleksandar Terzic, Geethan Karunaratne, Jovin Langenegger, **Angéline Pouget**, Giovanni Cherubini, Luca Benini, Abu Sebastian, Abbas Rahimi. "Factorizers for Distributed Sparse Block Codes". In *Neurosymbolic Artificial Intelligence*. May 2024.

Angéline Pouget, Sidharth Ramesh, Maximilian Giang, Ramithan Chandrapalan, Toni Tanner, Moritz Prussing, Radu Timofte, Andrey Ignatov. "Fast and accurate camera scene detection on smartphones".
In *Mobile AI 2021 Workshop at Conference on Computer Vision and Pattern Recognition (CVPR)*. May 2021.

Andrey Ignatov, Kim Byeoung-su, Radu Timofte, **Angéline Pouget**, et al. "Fast camera image denoising on mobile GPUs with deep learning, mobile AI 2021 challenge: Report"
In *Mobile AI 2021 Workshop at Conference on Computer Vision and Pattern Recognition (CVPR)*. May 2021.

Awards & Honors

Excellence Scholarship & Opportunity Award
ETH Zürich *2022*

Werner Siemens Fellowship
Werner Siemens-Foundation and Swiss Study Foundation *2020*

Best of Year and Best Matura Paper
Kantonsschule Zürcher Unterland *2018*

Skills

Coding languages: Python (PyTorch, TensorFlow, Keras), SQL, Java, C++
Languages: German (native), English (fluent), French (intermediate), Italian (beginner)
Non-technical skills: communication, project management, analytical thinking, team leadership