Fabio J. Fehr

Research assistant at Idiap,
PhD candidate at EPFL

- 25/05/1996,
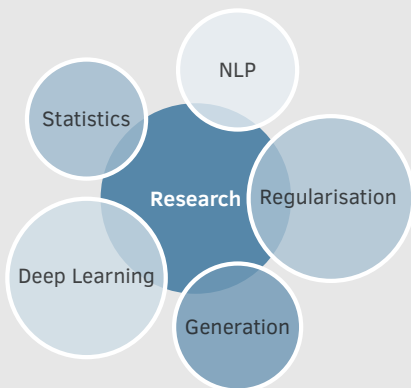 Swiss & South African
- fabio.fehr@idiap.ch
- LinkedIn Profile
- Research Profile

About me

I believe in honesty, humility and that kindness is the ultimate optimisation: free to give and invaluable to receive. I am passionate about research and think that the progress direction is more important than the progress magnitude. I am happiest with: rigorous mental stimulation, relaxing social interaction and regular physical exercise. For leisure, I enjoy spending time outside in nature: sunshine, sea and snowy mountains.

Interests

Languages

🇬🇧 English		● ● ● ● ●
🇫🇷 French		● ● ● ○ ○
🇿🇦 Afrikaans		● ● ● ○ ○
🇩🇪 German		● ● ○ ○ ○

Education

Tertiary: Postgraduate

2021 – 2024	**Doctor of Philosophy: Electrical Engineering**	EPFL
	Research in machine learning and natural language processing.	
	PhD Research	EPFL
	Combining Variational Bayesian nonparametric methods with deep attention-based models for representation learning.	
2019 – 2020	**Masters: Advanced Analytics**	UCT
	Statistics specialisation and awarded SASA-NRF full bursary.	
	Masters Thesis	UCT
	A comprehensive comparison study of Gaussian processes and variational autoencoders for statistical shape modelling of 3D meshes.	

Tertiary: Undergraduate

2015 – 2018	**Bachelors of Business Science: Analytics**	UCT
	Commerce degree with a specialisation in mathematics & statistics.	
	Honours Thesis (Distinction)	UCT
	Statistical machine learning techniques for classifying news articles. Presented at South African Statistical Association (SASA) 2019.	

Experience

2021-2024	**Research Assistant**	Idiap
	Natural Language Processing and Deep Learning research.	
2018	**Intern Machine Learning Engineer**	DataProphet
	Transfer learning for financial time-series data.	
2017 - 2018	**Intern Data Scientist**	Eighty20
	Data visualisation dashboard for the water crisis in Cape Town.	

Teaching

2021-2024	**Teaching Assistant**	EPFL
	Machine learning, Deep learning and NLP courses at EPFL.	
2019-2024	**Subject Matter Expert & Engagement Tutor**	2U
	Business Analytics (UCT), Machine Learning (LSE).	
2017 – 2020	**Head Tutor: Statistics**	UCT
	Managing, coordination, tutoring and assistant lecturing.	

Publications

PhD Research

2023	Nonparametric Variational Regularisation of Pretrained Transformers	ArXiv 2023
2023	Learning to Abstract with Nonparametric Variational Information Bottleneck	EMNLP 2023
2022	A VAE for Transformers with Nonparametric Variational Information Bottleneck	ICLR 2023

Research collaborations

2022	HyperMixer: An MLP-based Low Cost Alternative to Transformers	ACL 2023

References

PhD supervisor	Idiap
Dr. James Henderson - james.henderson@idiap.ch	
MSc supervisors	UCT
Prof. Tinashe Mutsvangwa - tinashe.mutsvangwa@uct.ac.za	
Mr. Allan Clark - allan.clark@uct.ac.za	