



# Fabio J. Fehr

Research assistant at Idiap,  
PhD candidate at EPFL

25/05/1996,  
Swiss & South African

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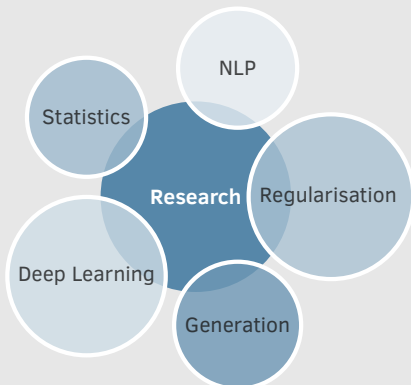
LinkedIn Profile

Research Profile

## About me

I advocate for leadership by example. I believe that the values: honesty, humility and kindness are the ultimate form of optimisation – free to give and invaluable to receive. I am passionate and tenacious in my research and think that the progress direction is more important than the progress magnitude. My happiest state: rigorous mental stimulation, relaxing social interaction and regular outdoor exercise. For leisure, I enjoy spending time 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