Fabio J. Fehr

Research assistant at Idiap,
PhD candidate at EPFL

25/05/1996,
Swiss & South African

fabio.fehr@idiap.ch

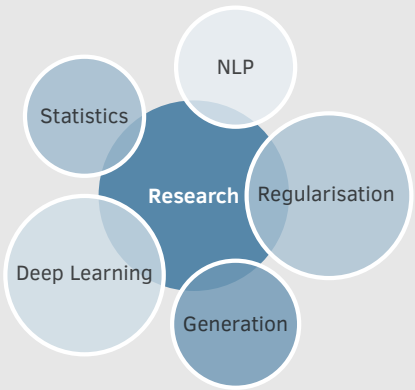
LinkedIn Profile

Research Profile

About me

I 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