

Felix Teufel

PHD STUDENT · MACHINE LEARNING

Copenhagen, Denmark

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Education

University of Copenhagen

PH.D. MACHINE LEARNING

- Advisor: Ole Winther

Copenhagen, Denmark

Feb. 2022 - ongoing

ETH Zürich

M.Sc. BIOTECHNOLOGY

- **GPA: 5.76/6 — Graduated with distinction**
- **Lab Assistant** in the Bioprocess Laboratory (Sven Panke group)
- **Technical University of Denmark**, Kongens Lyngby, Denmark - exchange semester for thesis research

Basel, Switzerland

Sep. 2018 - Jun 2021

University of Natural Resources and Life Sciences (BOKU) Vienna

B.Sc. FOOD SCIENCE AND BIOTECHNOLOGY

- **GPA: 1.6/5 (1 = best) — Graduated with distinction**
- **Teaching Assistant** for Biochemistry
- **Virginia Tech**, Blacksburg, VA, USA - represented Austria in a competition for student-founded startups (*Summer 2018*)

Vienna, Austria

Oct. 2015 - May 2018

Work Experience

Novo Nordisk A/S

INDUSTRIAL PHD STUDENT

- Machine Intelligence, AI & Digital Research

Måløv, Denmark

Feb. 2022 - ongoing

F. Hoffmann - La Roche AG

INTERN IN PHARMA TECHNICAL OPERATIONS

- Natural Language Processing of biopharmaceutical manufacturing data
- Developed productivity tools for Google Workspace (Apps Script)

Basel, Switzerland

Aug. 2019 - Jun. 2020

11er Nahrungsmittel GmbH

SUMMER INTERN IN RESEARCH AND DEVELOPMENT

- Developed chemometric models (PLS regression) for near-infrared spectrometry (NIR) analytics of foods

Frastanz, Austria

Jun. 2015 - Sep. 2017

Research Experience

SELECTED PUBLICATIONS (FULL LIST ON [GOOGLE SCHOLAR](#))

DeepLoc 2.1: multi-label membrane protein type prediction using protein language models

NUCLEIC ACIDS RESEARCH

M. Ødum, F. Teufel, V. Thumuluri, J.J.A. Armenteros, A.R. Johansen, O. Winther, H. Nielsen

2024

BEND: Benchmarking DNA language models on biologically meaningful tasks

ICLR 2024

F. I. Marin*, F. Teufel*, M. Horlacher, D. Madsen, D. Pultz, O. Winther, W. Boomsma

2024

DeepPeptide predicts peptide cleavage using conditional random fields

BIOINFORMATICS

F. Teufel, J. C. Refsgaard, C.T. Madsen, C. Stahlhut, M. Grønborg, O. Winther, D. Madsen

2023

GraphPart: Homology partitioning for biological sequence analysis

NAR GENOMICS & BIOINFORMATICS

F. Teufel, M. H. Gíslason, J.J.A. Armenteros, A. R. Johansen, O. Winther, H. Nielsen

2023

Deorphanizing Peptides Using Structure Prediction

JOURNAL OF CHEMICAL INFORMATION AND MODELING / MLSB @ NEURIPS 2022

F. Teufel, J. C. Refsgaard, M. A. Kasimova, K. Deibler, C.T. Madsen, C. Stahlhut, M. Grønborg, O. Winther, D. Madsen

2023

Combining mass spectrometry and machine learning to discover bioactive peptides

NATURE COMMUNICATIONS

2022

C.T. Madsen, J. C. Refsgaard, F. Teufel et al.

SignalP 6.0 predicts all five types of signal peptides using protein language models

NATURE BIOTECHNOLOGY

2022

F. Teufel, J.J. A. Armenteros, A. R. Johansen, M. H. Gíslason, S. I. Pihl, K. D. Tsirigos, O. Winther, S. Brunak, G. v. Heijne, H. Nielsen

PROJECTS

Predicting stem cell states from single cell transcriptomics data

Stanford, CA, USA - remote (COVID)

NEWMAN LAB, DEPARTMENT OF BIOMEDICAL DATA SCIENCE, STANFORD UNIVERSITY

Mar. 2021 - Feb. 2022

- Developing models to predict stem cell states reliably in multiple tissues

Honors & Awards

SCHOLARSHIPS

2015-2018 **Merit-based Scholarship**, BOKU Vienna

Vienna, Austria

INVITED TALKS

2023 **BC2 Basel Computational Biology Conference**

DeepTMHMM predicts alpha and beta transmembrane proteins using deep neural networks

Basel, Switzerland

2023 **Inter-Academy Workshop on Membrane Protein Structure and Folding**

DeepTMHMM predicts alpha and beta transmembrane proteins using deep neural networks

Stockholm, Sweden

2021 **Novozymes A/S**

Predicting signal peptides using protein LMs

Copenhagen, Denmark

Extracurricular Activities

PhD and Postdoc Fellowship Committee of Novo Nordisk

Copenhagen, Denmark

COMMITTEE MEMBER

Nov. 2022 - ongoing

- Organize workshops and events for ~80 PhD students and postdocs in the organization

Graduate Consulting Club of ETH Zürich

Zürich, Switzerland

TEAM LEADER

Mar. 2019 - May 2021

- Led a team of 5 student consultants on a market positioning project
- Consulted a computer vision / OCR startup on their market entry strategy in Switzerland

Biotechnology Students Association of ETH Zürich

Basel, Switzerland

VICE PRESIDENT

Feb. 2019 - Sep. 2020

- Responsible for industry relations
- Student delegate in the appointment committee for new professorships
- Representative in department commissions

Teaching

Thesis supervision & co-supervision

University of Copenhagen & DTU

5 M.Sc. theses and 6 projects

2021 - ongoing

Deep Learning

DTU

M.Sc. course, supervised project work of 17 students

2023

Biological Sequence Analysis

University of Copenhagen

M.Sc. course, TA for practicals on HMMs and motif discovery algorithms

2022

Reviewing

2024	Nature Communications	<i>Reviewer</i>
2024	Computational and Structural Biotechnology Journal	<i>Reviewer</i>
2023	Journal of Chemical Information and Modeling	<i>Reviewer</i>
2023	Machine Learning in Structural Biology Workshop at NeurIPS 2023	<i>Reviewer</i>
2023	NeurIPS 2023 Datasets & Benchmarks , Neural Information Processing Systems	<i>Reviewer</i>
2023	NeurIPS 2023 , Neural Information Processing Systems	<i>Reviewer</i>
2023	Nature Biotechnology	<i>Reviewer</i>
2023	Proteomics	<i>Reviewer</i>
2022	Bioinformatics	<i>Reviewer</i>
2022	ICLR 2023 , International Conference on Learning Representations	<i>Reviewer</i>
2022	PeerJ	<i>Reviewer</i>
2022	Scientific Reports	<i>Reviewer</i>

Skills

Languages	German/Swiss German (Native), English (C2), Spanish (B2), French (B1)
Programming Languages	PyTorch, Python, R, SQL, Google Apps Script
Tools	Linux, Google Cloud Platform, Git, Github
Wet Lab	Microbiology, Cell culture, Cloning, Protein expression and purification (lab scale and pilot scale)