

Louis Philipp Lukas

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Education

since 10/2021

PhD candidate ETH Zürich, Switzerland

Title: *Machine learning in orphan diseases: Recovery prediction for traumatic spinal cord injury from multimodal data* supervised by Prof. Dr. Catherine Jutzeler

09/2018 - 09/2021

M.Sc. Computational Biology and Bioinformatics ETH Zürich, Switzerland

09/2020 - 04/2021

M.Sc. thesis Machine Learning and Computational Biology Lab of Prof. Karsten Borgwardt

Alzheimer's Disease Heterogeneity: Data-driven approaches to uncovering subtypes using classifier-based distances supervised by Dr. Bastian Rieck

09/2015 - 06/2018

B.Sc. (Hons) Computer Science with Economics University of Exeter, United Kingdom

09/2017 - 05/2018

B.Sc. thesis Computer Science department in collaboration with the Exeter Microbial Biofuels Group

Improving Population Identification in High-Dimensional Flow-Cytometry Data: Combining Parallel Coordinate Plots and Clustering in a Bespoke Software Tool supervised by Prof. Jonathan Fieldsend

Research Experience

07/2021 - 09/2021

Research Assistant Machine Learning and Computational Biology Lab of Prof. Karsten Borgwardt

Estimating effects of missing data in spinal cord injury data registries and Foundations for drug repurposing after traumatic spinal cord injury supervised by Dr. Catherine Jutzeler

07/2020 - 09/2020

Research project Machine Learning and Computational Biology Lab of Prof. Karsten Borgwardt

Exploring feature extraction methods for structural Magnetic Resonance Imaging data supervised by Dr. Bastian Rieck

04/2020 - 06/2020

Research project Quantitative Developmental Biology Lab of Prof. Barbara Treutlein

Application of Gene Regulatory Network Inference Methods to cerebral organoid scRNA-seq data supervised by Zhisong He, PhD

01/2017 - 04/2018

Research Assistant University of Exeter Business School

Applying behavioural insights to charitable giving supervised by David Reinstein, PhD

04/2017 - 11/2017

International Genetically Engineered Machine competition (iGEM) University of Exeter

Member of an interdisciplinary team of ten undergraduate students working on a filtration system to tackle toxic waste at abandoned mining sites under supervision of the Microbial Biofuels Group

Publications and Talks

Under Review

Lucie Bourguignon[†], **Louis P. Lukas**[†], ..., Catherine R. Jutzeler: *Do commonly administered drugs inadvertently modify the progression of spinal cord injury? A systematic review*

10/2023

Louis P. Lukas, *Graph neural networks for recovery prediction after traumatic spinal cord injury*, 62nd ISCoS Annual Scientific Meeting, 2023, Accepted as Oral Presentation

09/2022

Louis P. Lukas, *Local motor score profiles as an alternative predictor of recovery after traumatic spinal cord injury*, 61st ISCoS Annual Scientific Meeting, 2022, Accepted as Oral Presentation

2021

Sarah C. Brüningk[†], Felix Hensel[†], **Louis P. Lukas**, Merel Kuijs, Catherine R. Jutzeler^{**}, Bastian Rieck^{**}: *Back to the basics with inclusion of clinical domain knowledge — A simple, scalable, and effective model of Alzheimer's Disease classification*. Proceedings of the 6th Machine Learning for Healthcare Conference, Number 149, pp. 730–754, 2021

Supervision and Teaching

02/2024 - 08/2024

Teaching Assisstant for Foundations of Data Science

09/2023 - 03/2024

Supervision of M.Sc. thesis (Adrian Kaufmann, M.Sc. Computational Biology and Bioinformatics)

05/2023 - 07/2023

Supervision of semester project (Julia Bugajska, B.Sc. Human Medicine)

02/2023 - 08/2023

Teaching Assisstant for Foundations of Data Science

10/2022 - 04/2023

Supervision of M.Sc. thesis (Hugo Madge Leon, M.Sc. Computational Biology and Bioinformatics)

05/2022 - 11/2022

Supervision of M.Sc. thesis (David Sommer, M.Sc. Computational Biology and Bioinformatics)

Service to community

09/2019 - 03/2023

member and vice-president (02/2020 to 02/2021) of the Committe for Computational Biology and Bioinformatics
