Master- and HIWI-projects in the Laboratory for Mental Health Mapping
In the Laboratory for Mental Health Mapping, we offer a diverse array of stimulating Master-Projects. These projects serve as stepping stones into the exciting world of translational machine learning.

Applied Machine Learning Projects

1. **Combing Theory and Data-Driven Computational Psychiatry through Normative Modelling**
   Embark on a journey to develop normative models for behavioral experiments, enabling the analysis of individual differences across reinforcement learning tasks. Your expertise will contribute to the creation of innovative tools for analyzing behavioral data obtained from online experiments - (possibility of international collaborations).
2. **Machine Learning for BCI-based Interventions in ADHD**
   Joint initiative focused on BCI data, predominantly EEG. Your role involves crafting a cutting-edge machine learning pipeline for in-depth analysis of ADHD patient data - (possibility of international collaborations).
3. **Normative Modeling for EEG Data Combined with MRI**
   Utilize subcortical structural data from MRI to predict EEG signals using a normative modeling approach. Your work will be instrumental in advancing our understanding of brain function - (possibility of international collaborations).
4. **Working on the Normative Predictome**
   Engage in the development of a normative modeling approach to predict interactions between brain regions. This project entails programming and analyzing large-scale imaging data, offering a unique opportunity to delve deep into the intricacies of brain connectivity - (possibility of international collaborations).
5. **More Possibilities**
   Propose your own projects! Your ideas are valued here, and I am eager to collaborate and support your unique research endeavors.

Foundational Machine Learning Projects

1. **Surface Transformers for Anomaly Detection**
   Cutting-edge vision transformer-based machine learning pipelines. Together, explore anomaly detection of cortical surface features using state-of-the-art techniques - (possibility of international collaborations).
2. **Anomaly Detection through Diffusion Modeling and Autoencoders**
   Contribute to the development of novel machine learning technologies focused on anomaly detection with diffusion and autoencoder models, showcasing your skills in this dynamic field - (possibility of international collaborations).
3. **More Possibilities**
   Your creativity knows no bounds, and I encourage you to propose your own projects! Let's collaborate to turn your ideas into research endeavors.

Application Process
Feeling inspired? Please reach out to me at dr.thomas.wolfers@gmail.com to express your (specific) interest in a short letter and attach your CV. However, do keep in mind that our projects operate on a first-come, first-served basis due to limited time and capacity. Our goal is good supervision and that is only possible if we restrict access. If you just started your masters and you are interested in this work, you can reach out for a HIWI position as well. We especially encourage the application from female scientists and minority groups. Our lab is diverse but your interests and skills are key, your background does not matter.