Prof. R. Wattenhofer

DeepEye: Eye Tracking with Deep Learning

Deep Learning is inspired by the brain structure. But can deep learning help us to advance our understanding of brain functions?

This project aims to develop an eye-tracking approach that offers gaze position that is based on concurrently measured electroencephalography (EEG) data. EEG is a widely-used, safe and cost-friendly method in cognitive neuroscience that directly measures the brain's electrical activity and enables measurement in clinical settings.

In this project, you will have the opportunity to work on a new large dataset of the simultaneously recorded electroencephalography and eye-tracking data of 450 participants.

We have developed different deep-learning models for eye movement prediction, focusing on special tasks like segmentation of EEG data to ocular events, predicting the angle or amplitude of eye movements, etc. The next project milestone aims to improve the models and understanding of the good performance of the current baselines.

Requirements:
Knowledge in Deep Learning, or solid background in Machine Learning.
Implementation experience with PyTorch is an advantage.

Interested? Please contact us for more details!

Contact

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