PRESENTATIONS

16 October, 17:00 - 18:15
QOP2: Technology and dementia
Room: 204/205

Rabindra Khadka

Learning visual concepts to enhance the interpretability of EEG signals as markers of Alzheimer's disease
The presentation highlights two key points:
Firstly, it demonstrates a self-supervised method to extract meaningful EEG data representations, without explicit labels. Secondly, it shows how our approach accurately identifies visual concepts from EEG signals, linking them to relevant clinical labels.

17 October, 12:00 - 13:00
QOP4: Ethical and legal issues
Room: 204/205

Pietro Refolo

The ethical relevance of explainability for AI solutions for early diagnosis of dementia
For effective AI-Mind tool adoption in clinical practice, we focus on and adopt Health Technology Assessment (HTA) principles. Explainability, vital for ethical analysis, is evaluated alongside tech design, target population, and market access. This is key in developing ethical AI for early dementia diagnosis.

18 October, 14:00 - 15:15
P38: Clinical trial recruitment and retention, Room: 103A

Ana Perez

Classifications of MCI and its potential selection- bias in an AI-based modelling
As part of our work, we study how different mild cognitive (MCI) diagnosis criteria in the AI-Mind study across four European countries: Norway, Italy, Spain and Finland, affects participants inclusion. This helps us understand potential biases in artificial intelligence (AI) models for dementia risk prediction due to varying patient populations.

Scan the QR code to learn more about AI-Mind at #33AEC

New opportunities in treatment and management

Mohamed Radwan

POS4-26: Multivariate time series classification of EEG data
We're working to improve EEG classification models. We'll showcase two types: one based on graphs, the other a sequence model. Additionally, we'll introduce a contrastive learning method to enhance prediction accuracy with these models.

Mats Tveter

POS4-27: Exploring DL for EEG Analysis: A Practical Approach to Uncertainty Modeling and Frequency-Based Explainability
We present results from using deep learning for predicting biological sex from EEG data, highlighting the model's feature-extraction potential and introducing a data-driven approach to identify significant frequency bands. We also tackle prediction performance and improve trustworthiness.

Thomas Tveitstøl

POS4-28: Generalising Deep Learning (DL) Methods to Handle a Varied Number of Electrodes for Processing EEG
Using DL for studying EEG data is becoming more popular. However, a problem arises with current methods, as they struggle with different numbers of channels in EEG data. This poster presents our solution, Region Based Pooling, which tackles this issue.

Claudia Carrarini

POS4-39: Artificial Intelligence tool for Alzheimer's Disease diagnosis
This poster introduces an affordable and non-invasive EEG method that uses advanced brain rhythm analysis for potential dementia diagnosis. When combined with neuropsychological assessments, it provides valuable insights to better detect cognitive decline.

Ramesh Upreti

POS4-135: The potential of synthetic EEG data in the diagnosis of neurological diseases using AI systems
We introduce a Synthesizing Brain Signals (SBS) tool, which creates realistic EEG data and addresses the challenge of limited data for diagnosing neurological disorders. We demonstrate that combining real data with SBS-generated data improves the AI model's accuracy from 77% to 82%.