Ketan Jaltare

COGNITIVE NEUROSCIENTIST AND PSYCHOLOGIST

Profile

Cognitive neuroscientist with 4+ years of experience in EEG signal processing, experimental design and data analysis using Python (+Matlab and R) and the application of state of the art machine learning and AI methods. Skilled in bridging neuroscience and technology to build data-driven insights into brain function.

Employment History

Post-Doctoral Researcher, KU Leuven, Leuven

JAN 2025 — PRESENT

- Applied and refined multivariate and machine learning methods for EEG signal processing, feature extraction, and source separation.
- Extended and optimized Python-based pipelines (MNE, NumPy) for automated analysis of corticomuscular coherence and single-trial event-related dynamics.

PhD Researcher, KU Leuven, Leuven

JUN 2020 — JAN 2025

- Designed and implemented EEG experiments investigating pain modulation; developed preprocessing and analysis pipelines in MATLAB and Python (MNE, NumPy, PyTorch, scikit-learn) for time–frequency, connectivity, and machine learning analyses.
- Published multiple peer reviewed scientific articles in top (Q1) international journals and presented my research at multiple international scientific conferences.
- Supervised 3+ MSc students on EEG and psychophysiology based projects.

Clinical Psychologist, Dara Rehab, Thailand

AUG 2014 — OCT 2018

- Led a multicultural team of psychologists and delivered 4000+ hours of individual and group therapy, developing strong leadership, interpersonal, and data-reporting skills across multiple therapeutic approaches (CBT, person-centered, and group psychodynamic).

Technical Highlights and Projects

EEG Seizure Classification with Deep Learning

Participated in a Kaggle competition Hosted by Harvard Medical School where I applied Deep learning models to EEG data to classify Seizures and other dysfunctional brain activity. See here.

Advanced approaches for EEG feature extraction

In this project, I apply wavelet filtering and multiple linear regression for the extraction of single trial peaks in event related EEG data. See here

EEG Beta Band Oscillations

In this project I investigate Beta band suppression and cortico-muscular coherence associated with stimulus anticipation. See here

Details

Leuven
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Links

My_Linkedin

Github

Skills

- Statistical modelling and Data Analysis (Python, R, Matlab)
- EEG/Biosignal analysis, Signal processing (Python, Matlab)
- Machine learning and AI (classification, regression, Neural network architectures)
- Strong analytical and problem-solving abilities
- Clear communicator and collaborative team player
- Leadership and Mentorship Experience

LLM fine-tuning and topic modelling

In this mini project, I fine tune the RoBERTa model for emotion classification and topic modelling on the MELD dataset. See here

Education

MSc Clinical, Social and Cognitive Neuroscience, City, University of London, London

SEP 2018 — DEC 2019

Graduated with Distinction.

Coursework: Statistics, Data Analysis, Cognitive Neuroscience, Experimental Design.

MSc Psychological Counselling, Christ University, Bangalore

2010 — 2012

Additional Courses

PCA & Multivariate Signal Processing Applied to Neural Data (Mike X Cohen), Udemy

JAN 2023 — APR 2025

A deep Understanding of AI LLM Mechanisms (Mechanistic Interpretibility), Udemy

SEP 2025 — OCT 2025

A Deep Understanding of Deep Learning, Udemy

JUN 2023 — SEP 2025

References

References available upon request