
Research topics	AI tools for stress detection from electrophysiological signals collected with wearable devices for ASD monitoring
Position (M/F)	Post-doctoral student
Reference offer	DS/MAZ/AIWEAR/012025
Research Department	Data Science (DS)
Publication date	16/01/2025
Start date	June 2025
Duration	18-month fixed-term contract

Description

The AI-Wear project, funded by the French National Research Agency (ANR), aims to revolutionize the assessment and monitoring of individuals with Autism Spectrum Disorder (ASD). This ambitious project seeks to leverage the power of Artificial Intelligence (AI) to analyze electrophysiological data collected from non-invasive wearable devices. The successful candidate will be crucial in developing cutting-edge anomaly detection methods to identify stress levels from noisy and heterogeneous electrophysiological signals.

The primary responsibility of the post-doctoral researcher will be to design and evaluate novel AI-based algorithms for stress detection. This includes developing robust methods to handle the challenges posed by real-world data, such as noise and high heterogeneity across subjects and acquisition conditions. A key focus will be identifying the most informative electrophysiological signals for stress detection and translating the developed techniques into a user-friendly software tool.

The successful candidate is expected to actively contribute to the scientific community by publishing research findings in high-impact journals and presenting work at leading conferences. Furthermore, they will actively participate in team meetings and the journal club, co-supervise master's students, and contribute to managing StressID, the team's dataset for stress identification research. This is an exciting opportunity to contribute to ground-breaking research with the potential to significantly improve the lives of individuals with ASD.

About the team. This post-doctoral position will be hosted within the AI4Health@EURECOM research group led by Prof. Maria A. Zuluaga. Prof. Zuluaga currently holds an ERC Consolidator Grant, providing access to cutting-edge research infrastructure and fostering a vibrant and competitive research environment. The candidate will benefit from such a dynamic and collaborative research environment. The AI-Wear project fosters strong interdisciplinary collaborations, providing opportunities to interact with researchers from diverse backgrounds, including academic institutions (Mines St Etienne), clinical institutes (CHU Nice), and industry partners (O-Kidia). This multidisciplinary approach will enrich the research experience and facilitate the translation of research findings into real-world applications.

Requirements

- PhD degree in a relevant discipline (e.g. computer science, machine learning, physics, biomedical engineering or related fields).
- Strong theoretical and practical knowledge in applied mathematics, statistics, machine learning, time series and analysis and data science, in general
- Strong programming skills. Ideally, previous experience with Python
- Demonstrated publication track record
- Good command of English for reading/writing scientific articles and delivering oral presentations
- Previous experience with handling and manipulating healthcare data is a plus



Application

The application must include:

- Detailed curriculum vitae,
- List of publications specifying the three most important publications,
- A cover letter stating your motivation and fit for this project
- Name and address of three references.

Applications should be submitted by e-mail to secretariat@eurecom.fr with the reference: **DS/MAZ/AIWEAR/012025** before **March 15th 2025**.

About EURECOM

EURECOM is a major Engineering School and a Research Center in digital sciences founded in 1991 as a consortium in the international technology park of Sophia Antipolis. The IMT is a founding member of the GIE. Teaching and research activities are organized around 3 promising fields: digital security, communication systems and Data Science.

EURECOM has a staff of 150 (researchers and support teams) and welcomes 400 international students on the Campus Sophia Tech, the largest information science and technology campus of the region. EURECOM enjoys a privileged geographical environment on the French Riviera (Côte d'Azur), between sea and mountains, at the heart of a dynamic and multidisciplinary ecosystem that promotes high-level scientific and technological innovation.

Social advantages

- International and multicultural environment
- Attractive salary - Corporate saving plans
- Private retirement plan (executive, employer participation of 100%)
- Employee profit sharing policy
- Company health insurance (mutuelle) with high levels of guarantees for the whole family (employer participation of 60%)
- Restaurant vouchers (employer contribution of 60%)

EURECOM is one of Europe's leading engineering schools specializing in digital technologies. It is located in the heart of the Côte d'Azur, in Europe's Silicon Valley (Tech Park Sophia-Antipolis). EURECOM's research teams work in an international, multicultural environment.

EURECOM has a dynamic policy in terms of **inclusion and quality of life at work**. We are committed to diversity and give equal consideration to all applicants, without discrimination. Above all, we look for competence and team spirit.

All our positions are open to **people with disabilities**. EURECOM has set up a disability advisor to provide support and advice, organize accommodation and make positive commitments to personal integration.

As part of its **gender equality plan**, EURECOM encourages gender diversity within its teams. As part of our gender equality action plan, we encourage male applications for administrative positions, traditionally held by women, and female applications for IT and research positions, traditionally held by men.

EURECOM is taking positive action as part of its **CSR policy**. A CSR representative oversees EURECOM's CSR and energy transition policies (electric charging stations, solar panels, waste sorting, etc.).

Web site EURECOM: <https://www.eurecom.fr/fr/eurecom/presentation>

EURECOM in VIDEO: <https://www.youtube.com/watch?v=ullFcgNijnM>

Employee experience:

<https://www.youtube.com/watch?v=BHv9zlduzuQ>

<https://www.youtube.com/watch?v=hvzzCBups8>