

Daniele Germano

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Education

- Since December 2023
PhD Program (ABRO) in Bioengineering @ DIAG (Sapienza)
Research focus on development of Artificial Intelligence models for processing and analysing bio signals.
Under the supervision of prof. Pietro Aricò.
- September 2015 – July 2020
Master of Science in Data Science @ DIAG (Sapienza)
Thesis Title: Towards passive Brain-Computer Interface employment in everyday-life applications
How to maximize EEG-based mental workload classification performance, through Machine Learning and Deep Learning methods.
- January 2015 – April 2015
Master in Big Data @ UIIP (Biogem)
- September 2011 – October 2014
Bachelor of Science in Statistics @ DESF (University of Calabria)

Professional Activities

- Since December 2023
Research Associate @ Department of Molecular Medicine (Sapienza)
1-year research contract focused on analysis of neurometric data and machine learning techniques related to mental fatigue as part of the research project: “Trustworthy Intelligent System For Remote Digital Tower”.

- November 2022 – December 2023
Research Associate @ Department of Molecular Medicine (Sapienza)
 1-year research contract focused on detecting “windows of responsiveness” in Minimally Conscious State Patients using Artificial Intelligence models.
- Since September 2022
Data Science Teacher @ Boolean
 Teacher at Data Analytics course I am in charge of Statistics, SQL and Python & ML modules.
- Since June 2022
External Data Science @ WISHINNOVATION
 I am engaged in the study and implementation of Artificial Intelligence models for creating algorithms that can improve indoor environmental quality (IEQ) and energy efficiency of buildings using IoT sensors.
- May 2022 – July 2022
External Data Science @ P4FUTURE
 I am participating in the creation of neural network algorithms to identify and classify fashion objects.
- September 2020 – August 2022
External Data Science @ BrainSigns
 I am finalizing research projects that stemmed from my master's thesis on Neuroscience, by taking part in the research and development of models and methodologies for the classification of mental states. I am currently collaborating on the creation of a portable device able to classify mental states in different contexts, using machine learning algorithms.
- October 2020 – January 2022
Senior Data Science @ Be
 I managed and lead a team of Data Scientists and supervised the development of Machine and Deep Learning models. I collaborated in several projects and independently carried out a project on behavioural analysis, habits, and points of interest of drivers for an insurance group.
- September 2019 – July 2020
Internship @ Fondazione Santa Lucia
 I carried out thesis research aimed at the analysis and creation of Machine Learning methods for the classification of mental states (such as Stress, Workload and Vigilance) through the analysis of bioelectric signals such as EEG, ECG and GSR.
- September 2018 – September 2022
Senior Data Science @ Jakala
 I was Referent for the realisation of an internal Project focused on the creation of a data platform, in order to enrich the partners' customer data in an anonymous way using

Statistical Matching functions and Advanced Data Anonymization and Privacy Tool.

- April 2015 – August 2018

Data Science @ Accenture

As part of a team of 5 people, I participated in the realization of 3 projects, each lasting one year. In the first project, for a banking group, I was responsible for creating a loyalty model for classifying users using the Cloudera platform with Spark Scala. In the second Project, Energy Group, I was in charge of creating Python scripts for the transformation of data included in an ETL process. In the third Project, Telecommunications Group, I worked on the creation of python scripts for data analysis and the creation of churn models on Google cloud Platform technology.

Scientific Activities

- **D. Germano**, N. Sciaraffa, V. Ronca, A. Giorgi, G. Trulli, G. Borghini, G. Di Flumeri, F. Babiloni, P. Aricò (2023). *Unsupervised Detection of Covariate Shift Due to Changes in EEG Headset Position: Towards an Effective Out-of-Lab Use of Passive Brain-Computer Interface*, Applied Sciences MDPI
- G. Di Flumeri, A. Giorgi, **D. Germano**, V. Ronca, A. Vozzi, G. Borghini, L. Tamborra, I. Simonetti, R. Capotorto, S. Ferrara, N. Sciaraffa, F. Babiloni, P. Aricò (2023). *A Neuroergonomic Approach Fostered by Wearable EEG for the Multimodal Assessment of Drivers Trainees*, Sensors MDPI
- N. Sciaraffa, G. Di Flumeri, **D. Germano**, A. Giorgi, A. Di Florio, G. Borghini, A. Vozzi, V. Ronca, F. Babiloni, P. Aricò (2022). *Evaluation of a New Lightweight EEG Technology for Translational Applications of Passive Brain-Computer Interfaces*, Frontiers in Human Neuroscience
- N. Sciaraffa, G. Di Flumeri, **D. Germano**, A. Giorgi, A. Di Florio, G. Borghini, A. Vozzi, V. Ronca, R. Varga, M. van Gasteren, F. Babiloni, P. Aricò (2022). *Validation of a light EEG-based measure for real-time stress monitoring during realistic driving*, Brain sciences MDPI
- N. Sciaraffa, **D. Germano**, A. Giorgi, V. Ronca, A. Vozzi, G. Borghini, G. Di Flumeri, F. Babiloni, P. Aricò (2021). *Mental Effort Estimation by Passive BCI: A Cross-Subject Analysis*, 2021 43rd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC), pp. 906-909

Language

Italian: Native

English: Working Proficiency

Spanish: Elementary Proficiency

Computer Skills

Excellent knowledge of **Python** (mainly of **Numpy**, **Scipy**, **Pandas** and **Keras** libraries) and **SQL-based DBMS**.
Good knowledge of **R**, **Scala**, **Matlab**, and data platform like **Google Cloud Platform**, **Microsoft Azure** and **Cloudera**