JASON OMEDES
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 Linkedin.com/in/jasonomedes   jasoromir.github.io/portfolio

About me: Highly passionate about solving problems and learning new things. Started playing with puzzles as a kid led me to obtain a PhD in Brain Machine Interfaces. After 6 years of hard work and research, I spent 1.5 years traveling the world and volunteering. This self-development and mind-opening journey granted me the opportunity of managing the yoga program in a meditation school of Thailand before the pandemic started. In the present, I have been updating my skills to become a data scientist.

EDUCATION

PhD Brain Machine Interfaces   [Thesis]   Sep'2013 – Jan'2019
University of Zaragoza – School of Engineering   Zaragoza, SPAIN
  • Analysis and decoding of electroencephalographic signals for control of devices, neuro-rehabilitation and motor substitution.

M.S. Biomedical Engineering   [Thesis]   Sep'2012 – Jan'2013
University of Zaragoza – School of Engineering   Zaragoza, SPAIN
  • Improve the decoding of "Error-related potentials" using frequency features.

M.S. + B.S. Industrial Engineering   [Thesis]   Sep'2006 – Jan'2012
University of Zaragoza – School of Engineering   Zaragoza, SPAIN
  • Specialized in robotics and Automatic Systems. Design of navigability maps for indoor scenes from omnidirectional vision.

Specialization Course   Aug'2010 – Jun'2011
Oklahoma State University   Stillwater, OK
  • **Relevant Courses**: Neural Nets, Computer Vision, Image & Signal Processing, Project Management.
  • Bancaja Scholarship (Tuition + Fees + 3000€ awarded for only 3 candidates among all UZ engineering programs).

PROFESSIONAL EXPERIENCE

R&D Engineer   Aug'2013 – Jan'2019
Institute of Investigation and Engineering of Aragón (I3A) - University of Zaragoza   Zaragoza, SPAIN
  • Implemented signal processing and machine learning techniques to characterize error potentials extracted from brain signals using electroencephalography, leading to more than 10 publications in international journals and conferences.
  • Conducted a total of 11 experiments to record EEG signals of over 100 volunteers, equivalent to over 2000hours of data.
  • Mentored 5 students and directed one of them during his BS thesis.   [thesis]
  • First runner-up in a national contest to present PhD thesis in under 3 min using plain language.   [video]

Visiting-Researcher   Mar'2017 – Nov'2017
Institute of Medical Psychology and Behavioral Neurobiology- University of Tübingen   Tübingen, GERMANY
  • Integrated electroencephalographic and neuro-muscular electrical stimulation techniques to explore the impact of stimulation dose in the elicited brain waveforms for neuro-rehabilitation purposes.
  • Collaborated as part of a 10-memebers multidisciplinary team to perform experiments in people with stroke.

Visiting-Researcher   Apr'2016 – Oct'2016
Institute of Neural Engineering - Graz University of Technology   Graz, AUSTRIA
  • Designed a virtual interface to perform the first studies in the generation of "Error Potentials" during realistic movements.
  • Participated in the MoreGrasp consortium, composed of 6 universities, industry and rehabilitation centers, for the development of a non-invasive multimodal neuroprosthesis for individuals with spinal cord injury.

Research Assistant Fellowship   Oct'2012 – Jul'2013
Institute of Investigation and Engineering of Aragón (I3A) - University of Zaragoza   Zaragoza, SPAIN
  • Analyzed over 40h of pre-recorded EEG signals and proposed the usage of alternative features to improve the decoding generalization in 20%.

Research Initiation Fellowship   Oct'2011 – Jun'2019
Institute of Investigation and Engineering of Aragón (I3A) - University of Zaragoza   Zaragoza, SPAIN
  • Proposed new heuristics to enhance the state-of-the-art in recovering the scene layout from omnidirectional images.
  • Evaluated the performance in 3 datasets (>50k images), one of them self-collected, leading to 2 publications.   [video]

SKILLS

  • **Programming Languages & Aptitudes:** Python + packages (e.g. numpy, pandas, scikit-learn, matplotlib), MATLAB, SQL, SPSS, Excel, Tableau, GIT, Tensorflow, Keras, PyTorch, Spark, C++, HTML, CSS
  • **Machine Learning:** Regression (e.g. Linear, Logistic, SVR, Random Forest), Classification (e.g. LDA, SVM, Naïve Bayes, Random Forest), Clustering, Deep Learning, Reinforcement learning
  • **Data Science:** Statistics (e.g. T-test, ANOVA, Monte Carlo, Bootstrapping), Data processing (cleansing, wrangling, visualization, modeling)

PUBLICATIONS

6 International Journals, 6 International Conferences, 3 International Workshops, 1 Book Chapter, 1 National Conference
Google Scholar: https://scholar.google.com/citations?user=9Nw9_GEAAAAJ&hl=en

SELECTED COURSES

Advance Data Science   Artificial Intelligence   Machine Learning   Deep Learning   Tensorflow2 for DL   NLP   SQL   Algorithms & Data Structures

VOLUNTEERING

Hospital (MYANMAR)   Orphanage (CAMBODIA)   School (LAOS)   Yoga & Meditation (THAILAND)   Mindful Farm (THAILAND)   Exchange Students (SPAIN)