Alberto Barradas

Behavioral Data Analyst (M. Sc.)

- Graz, Austria
- English (Native)
- Spanish (Native)
- German (Working Prof.)
- ORCID:0000-0001-6756-5485

Skills

Linux   15+ yrs.

Bio- and Neurofeedback Software   15+ yrs.

Neuroengineering   15+ yrs.

Python   10 yrs.

Docker   9 yrs.

Julia   7 yrs.

Cognitive Experimental Design   6 yrs.

Generative Deep Learning   6 yrs.

Distributed Scientific Computing   3 yrs.

Scientific Writting   3 yrs.

Eyetracking   2 yrs.

Biography

My name is Luis Alberto Barradas Chacón, I am a PhD candidate at doctoral school for Informatics at the TUGraz. I am a certified Mindfulness facilitator, and a member of the Mexican Society for Bio- and Neurofeedback, and the Mexican Biosignals group. With collaboration as a main driver for scientific progress, I propose with my professional profile a series of techniques implemented during my academic journey to develop, execute, and share open-science methods for cognitive science research. During my education and professional career, I have personally benefited from the open science community, and I am convinced of its advantage. I contribute to experimental designs and the technology to execute them, analysis methods and the programming languages to implement them, as well as the means to communicate and share it all. If you are interested in my work, please do not hesitate to contact me.

Work experience

Research Assistant | PhD student   `2020 - 2022`
Institute of Neural Engineering
Graz University of Technology

Duties includes: Experimental Design, Data Analysis, Scientific Project Administration, Scientific Communication, Community Engagement, and Teaching.

Part-time Behavioral Data Analyst   `2018 - 2019`
Institute of General Psychology (Prof. Pamela Baess)
Hildesheim University

Duties included: Experimental Design Implementation, Technological development, Student Training, and Data Analysis.

Intern Data Analyst   `2016 - 2017`
Center for Neuroscience (Prof. Leticia Chacón)
LaSalle Bajío University

Duties included: Data Analysis for EEG, ECG, and physiological biosignals, as well as questionnaires.

Technology Consultant   `2015 - 2016`
School of Government and Public Transformation
(Prof. Edgar Barroso)
Tecnológico de Monterrey

Duties included: Technological development for startups, as well as consulting for high profile decision makers.

Education

2020 - 2025 (expected)

Brain-Computer Interfaces/Cognitve Modeling (Ph.D.)

Graz University of Technology

Cognitive Modeling ▪ Affective Computing
Topic: „Cognitive Modeling for Affective Computing".

2017 - 2020

Data Analytics (M.Sc.)

University of Hildesheim

Natural Language Processing ▪ Affective Computing of Biosignals
Master's thesis: „Emotion Representation in Large Language Model Embeddings".

2014 - 2017

Information Systems (B.Sc.)

Natural Language Processing ▪ Artificial Intelligence
Bachelor's thesis: „Emotion Sonification in Social Networks".

Interests

▸ Gardening
▸ OpenSpaces
▸ Technology Transfer

Contact

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🏠 abcsds.github.io

○ github.com/abcsds

🎓 Alberto Barradas

▸ researchgate

Publications

- Barradas-Chacón, L. A., Brunner, C., & Wriessnegger, S. C. (2023). "Stylized faces enhance ERP features used for the detection of emotional responses". In: *Frontiers in Human Neuroscience*, 17, 1160800.

- Wriessnegger, S. C., Autengruber, L. M., Chacón, L. A. B., Pirker, J., & Safikhani, S. (2022, October). "The influence of visual representation factors on bio signals and its relation to Presence in Virtual Reality Environments". In *2022 IEEE International Conference on Metrology for Extended Reality, Artificial Intelligence and Neural Engineering (MetroXRAINE)* (pp. 199-204). IEEE.

- Barradas Chacon, L. A., Fedoskin, A., Shcheglakova, E., Neamsup, S., & Rashed, A. (2019). "Emotion analysis using heart rate data". In *Database and Expert Systems Applications: DEXA 2019 International Workshops BIOKDD, IWCFS, MLKgraphs and TIR*, Linz, Austria, August 26–29, 2019, Proceedings 30 (pp. 147-154). Springer International Publishing.

Open Source Projects

- **HRBand-LSL** - A high precission biosignal acquisition tool for heart rate data using Lab Streaming Layer.
github.com/abcsds/HRBand-LSL

- **VizHRV** - A biosignal visualization tool for heart rate data using Makie.jl and Lab Streaming Layer.
github.com/abcsds/VizHRV

- **DDMViz** - A visualization tool for the Drift Diffusion Model.
github.com/abcsds/DDMViz

- **NBack** - A cognitive task for the assessment of working memory.
github.com/abcsds/Nback

- **ANT** - Attentional Networks Task. A cognitive task for the assessment of attentional networks.
github.com/abcsds/ANT

- **DualTask** - A cognitive task for the assessment of divided attention.
github.com/abcsds/DualTask

- **RDM** - Random Dot Motion Task: A cognitive task for the assessment of perceptual decision making.
github.com/abcsds/RDM

- **FFMQ** - A cognitive task for the digital assessment of mindfulness using the Five Facet Mindfulness Questionnaire.
github.com/abcsds/FFMQ

- **FaceOddball** - An oddball cognitive task using faces as target stimuli.
github.com/abcsds/FaceOddball

Graz, Austria, 2nd October 2024

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