

LIZBETH PERALTA MALVÁEZ, PH.D.

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🌐 <http://lizperaltamz.com>

🌐 lizbethperaltamz



Full-time professor at Tecnológico de Monterrey with experience in biosignal processing, machine learning, data analysis, data assimilation, and human-computer interaction.

▶ WORK EXPERIENCE

FULL-TIME PROFESSOR

Tecnológico de Monterrey, Mexico Jun 2023-

- Taught undergraduate courses focused on front-end web development, algorithm design, introduction to programming, user experience, and data analysis.

POSTDOCTORAL RESEARCHER

Stanford University, USA Jan 2022-Dec 2022

- Analyzed and processed brain images, ECG signals, and proteomics data regarding cognitive decline with R, Matlab, and Python.
- Executed trials of a REST API prototype with potential users.
- Published articles in peer-reviewed journals and developed presentations for conferences.
- Trained students in areas including data management and coding.

VISITING RESEARCHER

CINVESTAV Monterrey, Mexico Sept 2019-Feb 2020

- Analyzed and processed EEG signals to demonstrate the viability of the Ensemble Kalman Filter (EnKF) in Matlab and Python.
- Designed and coded the EnKF for QEEG analysis in Python.
- Published articles in peer-reviewed journals.

UX DESIGNER

CONACYT's Projects, Mexico Sept 2013-Jul 2014

- Designed storyboards and low- and high-fidelity prototypes.
- Executed focus groups to test different prototypes.
- Developed reports and presentations showcasing the test results.

▶ EDUCATION

PH.D. IN INTELLIGENT SYSTEMS

UDLAP, Mexico Aug 2015-Dec 2020

B.ENG. IN SYSTEMS AND IT

UDLAP, Mexico Jan 2011-May 2015

CODING SKILLS

Python ██████████

Matlab ██████████

R ██████████

LaTeX ██████████

Bash ██████████

C# ██████████

HARD SKILLS

- ML Algorithms
- Statistical Analysis
- Data Analysis
- Data Visualization
- UX/UI Design
- Prototyping
- UX Testing
- Reporting

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SOFT SKILLS

- Research
- Problem-solving
- Adaptability
- Communication
- Organization
- Collaboration
- Decision-making

CERTIFICATIONS

- Google Data Analytics
- Medical Statistics I:
Introduction to Data Analysis
- IRB BioMed/GCP Research
- Neuroscience and
Neuroimaging

LANGUAGES

Spanish 

English 

Italian 

▶ JOURNAL PUBLICATIONS

CCA IDENTIFIES A NEUROPHYSIOLOGICAL MARKER OF ADAPTATION CAPACITY THAT IS RELIABLY LINKED TO INTERNAL LOCUS OF CONTROL OF COGNITION IN AMNESTIC MCI

GeroScience, DOI: [10.1007/s11357-023-00730-8](https://doi.org/10.1007/s11357-023-00730-8) 2023

USING DATA ASSIMILATION FOR QUANTITATIVE ELECTROENCEPHALOGRAPHY ANALYSIS

Brain Sciences, DOI: [10.3390/brainsci10110853](https://doi.org/10.3390/brainsci10110853) 2020

NEWBORN CRY NONLINEAR FEATURES EXTRACTION AND CLASSIFICATION

Intelligent and Fuzzy Systems, DOI: [10.3233/JIFS-169510](https://doi.org/10.3233/JIFS-169510) 2018

USER EXPERIENCE DESIGN FOR BRAIN-COMPUTER INTERFACES TO SUPPORT INTERACTION IN POINTS OF INTEREST

Research in Computing Science, [rcs.cic.ipn.mx/2015_89](https://doi.org/10.3233/JIFS-169510) 2015

▶ CONFERENCES

USE OF CANONICAL CORRELATION ANALYSIS FOR THE STUDY OF ADAPTATION CAPACITY

Neuroscience, USA, DOI: [10.13140/RG.2.2.20361.93282](https://doi.org/10.13140/RG.2.2.20361.93282) 2022

INDIVIDUAL ALPHA PEAK FREQUENCY'S DATASET THROUGH NEUROFEEDBACK'S PROTOCOL

ICNR, Italy, DOI: [10.1007/978-3-030-01845-0_138](https://doi.org/10.1007/978-3-030-01845-0_138) 2018

NEUROFEEDBACK SESSIONS MEASUREMENT BASED ON THE USER'S PEAK ALPHA FREQUENCY

EMBC, South Korea, DOI: [10.13140/RG.2.2.28562.86720](https://doi.org/10.13140/RG.2.2.28562.86720) 2017

A PLATFORM FOR EXPERIMENTING WITH BRAIN-COMPUTER INTERFACES IN POINTS OF INTEREST OF SMART CITIES

CLIHC, Argentina, DOI: [10.1145/2824893.2824905](https://doi.org/10.1145/2824893.2824905) 2015