JIMMY PULIDO ARIAS

jpulidoa@cs.cmu.edu | linkedin.com/in/jimmy

EDUCATION

Carnegie Mellon University Sep. 2025 – Present
PhD Program in Neural Computation — Neuroscience Institute
Advisor: Saurabh Vyas *Pittsburgh, PA*

M.S. in Neuroengineering Sep. 2022 – Sep. 2024
Chonnam National University — GPA: 4.5/4.5 — Advisor: Kim Do-Won *Republic of Korea*

Universidad Nacional de Colombia Feb. 2015 – Aug. 2021
B.S. in Computer Engineering with a minor in AI— GPA: 4.4/5.0 *Bogotá, Colombia*

RESEARCH EXPERIENCE

Researcher at Neuroengineering Laboratory Jun. 2023 - Present
Chonnam National University | Advisor: Kim Do-Won *Korea*

- Developing innovative Brain-Computer Interfaces with a human-centered approach and Virtual Reality.
- EEG brain image interpretation using artificial neural networks.

Intern at Intelligent Robot Laboratory Aug. 2018 - Feb. 2019
University of Seoul | Advisor: Yu Ha-Jin *Seoul, Korea*

- Developing deep learning models for real time speaker recognition.

AWARDS AND SCHOLARSHIPS

Fulbright Scholar – Fulbright award for a Ph.D program at CMU fall 2025

Gobal Korea Goverment Scholarship – M.S. Degree at Chonnam Nat. University Aug. 2022 – Sept. 2024

Gobal Korea Goverment Scholarship – Exchange at the University of Seoul Aug. 2018 – Feb. 2019

Ser Pilo Paga, Colombia Government Scholarship –Universidad Nacional de Colombia Feb. 2015 – Aug. 2021

PROFESSIONAL EXPERIENCE

Technical Chair at Neuromatch, Inc Jun. 2022 - Present
Fostering global collaboration in computational, neuro and climate sciences. Leading the development of a web portal, catering to an audience of over 10,000+ students worldwide.

Machine Learning Ops Engineer at Anheuser-Busch InBev Nov. 2021 - Oct. 2022
Leading the development of TestOps, a pioneering experimentation platform for physical retailers.

Software Engineer at PayU.com Feb. 2021 - Oct. 2021
Developed a Java Back-end API for integrating credit card transactions between PayU and the Central Bank of Brazil for financial regulatory compliance and reporting.

PRESENTATIONS & PAPERS

Pulido-Arias, J., Kim, DW. *Enhancing Extended Reality: A Systematic Review of EEG-BCI Integration with User Interfaces.* paper: in preparation. Sept. 2024

Pulido-Arias, J., Kim, DW. *User Friendly GUI for Brain-Computer Interfaces in VR.* 10th Annual Conference of the Korean Society of Brainwave Neurophysiology, Seoul, Korea, poster. Dec. 2023

Pulido-Arias, J., Kim, DW. *VR-Enabled SSVEP: Expanding Brain-Computer Interfaces with Virtual Reality.* International Biomedical Engineering Conference IBEC, Seoul, Korea, conference paper. Nov. 2023

Pulido-Arias, J., et al. *Do encoding models help us understand brain activity (human visual cortex) predicted from visual stimuli?* Neuromatch Academy, Deep Learning summer school, 2021, abstract presentation. Aug. 2021

Pulido-Arias, J., et al. *How monitoring neuronal activity in certain areas in the brain would help us predict motor behaviors in rodent models?* Neuromatch Academy, Computational Neuroscience school, abstract. Aug. 2021

COURSES AND CERTIFICATES

Johns Hopkins University	Neuroscience and Neuroimaging Specialization	Credential link
Duke University	Machine Learning OpS Specialization	Credential link
University of Washington	Computational Neuroscience	Credential link
Neuromatch Academy	Computational Neuroscience	Credential link
Neuromatch Academy	Deep Learning	Credential link
DeepLearning.AI	Neural Networks and Deep Learning	Credential link
DS4A Correlation One	Data Science for All, Graduated with Honors.	Credential link

LEADERSHIP VOLUNTEERING

Neuromatch Academy (Non-profit) Jul. 2021 - Present

- Active volunteer at Neuromatch and current Technical Chair for Neuromatch and Climatematch Academy 2024.
- Promoting open science and education through online summer programs in neuroscience, and climate sciences.

Free and Open source Software 2020 - Present

- Archlinux Package Maintainer, reporting and fixing bugs for Arch packages.

TECHNICAL STRENGTHS

Computer Languages	`C(++), Python, Java, JavaScript (NodeJS)`
Backend & Frontend	`Django, React, Node`
Deep Learning	`Torch, Keras, GenAI, Diffusion Models`
DevOps	`Docker, GithubActions, Kubernetes, Kafka`
MLOps	`Databricks, MLflow`
Neuroscience & Neuroimaging	`EEG, fMRI, Neuropixels data`
Data Science	`Numpy, Pandas, Scikit-learn, Matplotlib, Seaborn`
Parallel Computing	`Cuda, Pyspark, OpenMP, MPI, POSIX`
Databases	`MySQL, PostgreSQL, MongoDB`
`~/Skills/OS:~#ls -a`	`GNU/Linux, Bash, Unix, ArchLinux, Vim, Emacs`

LANGUAGE SKILLS

Spanish Ability	`Native Speaker`
English Ability	`CEFR C1 - TOEFL iBT 106/120` – Credential
Korean Ability	`CEFR C1 - TOPIK 6`

RESEARCH AND PROJECTS

VR-Enabled Brain-Computer Interface with Tailored GUI | (NeuroScience, BCI, EEG) 2nd Sem. 2023

- Development of an immersive SSVEP-based BCI system using Virtual Reality, including a specialized Graphical User Interface (GUI) tailored for SSVEP within a VR environment. Abstract

AI model for brain disorders diagnosis using EEG | (Deep Learning, Neuroscience, EEG) 1st Sem. 2023

- Development of a Deep Learning model for Automatic diagnosis of brain disorders from raw EEG functional connectivity.

Neuromatch Deep Learning project | (Neuroscience, fMRI, Deep Learning) 2nd Sem. 2021

- Led a study to explore how the visual cortex of the human brain works.
- Development of an fMRI voxel-wise encoding-decoding (ResNet 34) to predict fMRI responses from dimensionally reduced features of the visual stimuli using the Algonauts 2021 Dataset. Presentation | Abstract

Neuromatch Computational Neuroscience project | (Neuroscience, Deep learning, Neuropixel) 1st Sem. 2021

- Utilized LSTM model to predict mouse behavior from recorded neural activity in various brain regions using the Steinmetz dataset, aiming to enhance predictive capabilities for motor behaviors in rodent models. Github code | Abstract

COVID-19 Dashboard for Alcaldía de Bucaramanga | (Data Science, python) 2nd Sem. 2020

- Project part of the Data Science for All DS4A provided by the MinTIC in Colombia.
- Development of a Dashboard, for the mayor of Bucaramanga, with Data Analysis, prediction, prevention, and spatial models of COVID-19 using Data Science and Machine Learning.

Painter Classification using Deep Learning | (Deep Learning, Computer Vision) 1st Sem. 2020

- Development of a neural network model that can distinguish the author of a given painting from a defined list of painters. Abstract