Jesus Garcia Ramirez

M.Sc. Artificial Intelligence

Leuven, Belgium
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Education

01/22 - **PhD Candidate in Neuroscience**, *Ku Leuven*, Belgium

Thesis topic: Probing the neural correlates of perception and cognition using population decoding

09/19 - 09/20 **M.Sc. Artificial Intelligence**, *Ku Leuven*, Belgium, Magna Cum Laude

Master Thesis: Efficient analysis of mobile eye tracker data using deep learning

09/18 - 09/19 **Erasmus Exchange Program**, *Ku Leuven*, Belgium

09/15 - 09/19 **BSc. Industrial Engineer**, *University of Seville*, Spain

Major in Systems Automation

Employment

12/20 - 12/21 **Research Associate**, Research Group Experimental Neurosurgery and Neuroanatomy, KU Leuven

Developed diverse computational models for understanding neural responses obtained in the context of invasive electrophysiology:

- CNN-based encoding models for predicting the response of individual neurons recorded in higher areas of the human ventral stream.
- Kalman filter dynamical models for decoding reaching direction from macaque dorsal and ventral premotor and primary motor cortex in the context of a motor Brain-Machine Interface.

Research Areas

Computational Neuroscience
Visual Cognition
Machine Learning
Brain Machine Interface

Technical Skills

Languages Python, Matlab, LaTeX, Git
Libraries Pytorch, Scikit-Learn, Pandas, OpenCV, Numpy

Publications

Garcia J*, Vanhoyland M*, N. A. Ratan Murty, Decramer T, W. Van Paesschen, S. Bracci, H. Op de Beeck, N. Kanwisher, Janssen P, Theys T. Fine-grained neural coding of bodies and body parts in human visual cortex, *biorxiv*, (2024)

Conference Abstracts

Garcia J, Michaël Vanhoyland, Peter Janssen, Tom Theys. Single neuron signatures of spatial attention in the human lateral occipital complex. ***Society for Neuroscience***, Washington D.C., USA (2023).

De Schrijver S*, **Garcia J***, Decramer T, Janssen P, Theys T. Comparing reach direction decoding in macaque ventral premotor, dorsal premotor, and primary motor cortex. ***Neural Control of Movement***, Victoria, Canada (2023).

Vanhoyland M*, **Garcia J***, V Bougou, Van Hoylandt A, Decramer T, Janssen P, Theys T. Single-neuron evidence for body selectivity in humans. ***Belgian Society for Neurosurgery***, Brussels, Belgium (2022).

Garcia J, Vanhoyland M, Serre T, Janssen P, Theys T. Single unit correlates of visual reasoning in the human lateral occipital complex. ***Society for Neuroscience***, San Diego, USA (2022).

Garcia J*, Vanhoyland M, Decramer T, Van Hoylandt A, Van Loon J, Van Passchen W, Serre T, Janssen P, Theys T. Object decoding with spatial attention in the human lateral occipital cortex. ***Federation of European Neuroscience Societies***, Paris, France (2022).

Garcia J*, De Schrijver S*, Decramer T, Janssen P, Theys T. Decoding reaching direction from macaque dorsal and ventral premotor and primary motor cortex. ***Society for Neuroscience***, Chicago, USA (2021).