

# Ana Luísa Pinho

BrainsCAN Postdoctoral Fellow

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## About Me

I am a Neuroscientist with a background in Engineering Physics. My research focuses on the application of functional Magnetic Resonance Imaging (fMRI), computational and statistical techniques—including machine learning—to map neurocognitive mechanisms in the human brain.

## Expertise

-  Plan&Organize Multistep Projects
-  Analysis of High-Dimensional Data
-  Scientific Writing

## Languages

	Portuguese	● ● ● ● ●
	English	● ● ● ● ●
	French	● ● ● ● ●

## Social Network

	@alpinho
	@analupinho.bsky.social
	@ALuisaPinho@fediscience.org
	@ALuisaPinho
	<a href="https://linkedin.com/in/analuisapinho">linkedin.com/in/analuisapinho</a>

## Memberships

 Member of the Portuguese Society for Neuroscience

## Professional Experience

2021 – Present **BrainsCAN Tier I Postdoctoral Fellow**

Western University, CA

- Functional mapping of the cortico-striatal-cerebellar circuitry involved in the cognitive ability of forming temporal predictions during rhythmic and non-rhythmic sequences of events.
- Development of individualized encoding models (that better account for inter-subject variability) to improve functional specificity in neuroimaging of the cognitive mapping of elementary components associated with human behaviour.

2015 – 2020 **Postdoctoral Researcher**

Parietal Team – Inria Saclay, FR

- Development of the Individual Brain Charting (IBC) dataset, an open-access, multi-task fMRI-data initiative.
- Development of an individual-functional-atlas approach to link functional segregation of specialized brain regions to elementary mental functions, by leveraging the IBC dataset.

## Education

Postgraduate

2009 – 2015 **PhD Biomedical Sciences** Karolinska Institutet, SE and University of Coimbra, PT  
Thesis: *Inside of the Creative Mind: Unravelling the Neurocognitive Mechanisms of Musical Creativity*

Undergraduate

1999 – 2008 **MSc + Licentiate Degrees Engineering Physics** Instituto Superior Técnico – ULisboa, PT  
Thesis: *Probabilistic non-linear earthquake location in a 3-D velocity model*

## Fellowships, Grants & Awards

2025	<b>Trainee Speaker Award at SONA2025</b> — “Southern Ontario Neuroscience Association” conference	Western University, CA
2021 – Present	<b>BrainsCAN Postdoc. Fellowship</b> Amount (5y): <b>389K CAD</b>	Canada First Research Excellence Fund, CA
2013 – 2014	<b>Research Grant</b> Amount: <b>~144K SEK</b>	Sven and Dagmar Saléns Foundation, SE
2013	Prize of <b>The Best Poster Communication</b> Symposium “Music, Poetry & The Brain – Celebrating Wagner’s Bicentennial”	Rectorate of NOVA ULisboa, PT
2009 – 2013	<b>PhD Studentship SFRH/BD/33895/2009</b> Amount: <b>~80K €</b>	Foundation for Science and Technology, PT
2006 – 2007	<b>Scientific Initiation Grant Seismology</b> Amount: <b>~3.600 €</b>	Foundation for Science and Technology, PT

## Ad Hoc Reviewer

Journals

Cerebral Cortex, NeuroImage, Scientific Data, Scientific Reports, Brain Structure and Function, Brain Imaging and Behavior, Frontiers in Psychology and PeerJ Computer Science

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## Computer Skills —

### 💻 Programming

Python (venv, pytest, Joblib), Bash, C, SQL, Lisp, Assembly (Harvard Arquitecture)

### ⚙️ Scientific Computing

IPython, NumPy, SciPy, pingouin, MATLAB, GNU Octave, Jupyter Notebook, R, Wolfram Mathematica

### 🤖 Machine-Learning Frameworks

scikit-learn, PyTorch, Google AI&ML Transformers

### >Data Manipulation&Visualization

pandas, Matplotlib, Seaborn

### 🅰️ Typesetting

LaTeX(Document Classes: article, beamer, book and letter)

### 🧠 Software for Neuroimaging

Nilearn, NiBabel, SPM, FSL, FreeSurfer, Papaya, Connectome Workbench, MRIcron, MRICroGL, BrainVoyager

### ♣️ Software for Psychophysics

Expyriment, pliers, Psychtoolbox, E-Prime&E-Basic, PsychoPy, Presentation

### 🔧 Software Engineering

Git protocol (Platforms: GitHub and GitLab), Conda

### 🌐 Web/Databases

HTML&CSS, Django

### ;leftarrow;Miscellaneous

GNU Emacs, gnuplot, Visual Studio Code, Office productivity softwares, GIMP, Inkscape, darktable, Unison File Synchronizer, VeraCrypt, FFmpeg, Kdenlive, Statistica

## Selected Publications

2024	<b>Individual Brain Charting third release, probing brain activity during Movie Watching and Retinotopic Mapping.</b> <i>Ana Luísa Pinho et al.</i> Sci Data. 11(1):590
2024	<b>Should one go for individual or group-level brain parcellations? A deep-phenotyping benchmark.</b> <i>Bertrand Thirion, Himanshu Aggarwal, Ana Fernanda Ponce, Ana Luísa Pinho, and Alexis Thual</i> Brain Struct Funct. 229(1):161-181
2021	<b>From deep brain phenotyping to functional atlasing.</b> <i>Bertrand Thirion, Alexis Thual, and Ana Luísa Pinho</i> Curr Opin Behav Sci. 40:201-202
2021	<b>Subject-specific segregation of functional territories based on deep phenotyping</b> <i>Ana Luísa Pinho et al.</i> Hum Brain Mapp. 42(4):841–870
2020	<b>Individual Brain Charting dataset extension, second release of high-resolution fMRI data for cognitive mapping.</b> <i>Ana Luísa Pinho et al.</i> Sci Data. 7(1):353
2018	<b>Individual Brain Charting, a high-resolution fMRI dataset for cognitive mapping</b> <i>Ana Luísa Pinho et al.</i> Sci Data. 5:180105

## Selected Dataset Publications

2021	<b>Individual Brain Charting (IBC)</b> <i>Ana Luísa Pinho et al.</i> EBRAINS, v3.0
2020	<b>Individual Brain Charting dataset extension, second release of high-resolution fMRI data for cognitive mapping</b> <i>Ana Luísa Pinho et al.</i> NeuroVault. id collection=6618

## Selected Software Contributions

2021 – Present	Contributer to <b>WiNRepo</b> : “Women in Neuroscience Repository”
2017 – Present	Contributer to <b>Nilearn</b> : Stats&ML for NeuroImaging in Python
2015 – Present	Contributer to <b>Public Analysis Code for the IBC Project</b>
2015 – 2020	Contributer to <b>Public Protocols for the IBC Project</b>

## Selected Talks

2025	<b>The Striatal-Cerebellar Pathways of forming Beat- and Interval-based Temporal Predictions</b> Talk at SONA2025 (Southern Ontario Neuroscience Association conference), Western University, London, Ontario, Canada
2023	<b>Deep behavioral phenotyping in functional MRI for cognitive mapping of the human brain</b> Seminar at the MNI Feindel Brain and Mind Lecture Series, BIC and MNI, McGill University, Montreal, Canada
2020	<b>Segregation of functional territories in individual brains</b> Oral presentation in Session Modeling and Analysis: Variability in Brain Activation, OHBM Annual (Virtual) Meeting
2019	<b>Individual Brain Charting, a high-resolution fMRI dataset for cognitive mapping of the human brain</b> The 5 <sup>th</sup> CiNet Conference, Osaka, Japan

## Advocacy

Gender Equity Board member of the *Women in Neuroscience Repository* (WiNRepo)