



# ANTONI BERTOLIN MONFERRER

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[github.com/tobe2098](https://github.com/tobe2098)

## EDUCATION

<b>PhD   Computational Neuroscience</b> University of Bonn	2022 – Ongoing (Aug. 2025) Bonn, Germany
<b>M. Sc.   Evolutionary Genetics</b> University of Edinburgh	2021 – 2022 Edinburgh, UK
<b>M. Sc.   Integrative Neuroscience</b> University of Edinburgh	2020 – 2021 Edinburgh, UK
<b>B. Sc.   Biochemistry</b> Universitat de Barcelona	2016 – 2020 Barcelona, Spain
<b>IB &amp; Spanish Baccalaureate</b> Agora Lledo International School	2014 – 2016 Castellon, Spain

## RELEVANT WORK EXPERIENCE

### POSITIONS

<b>Doctoral Researcher</b> Universitätsklinikum Bonn Universitätsmedizin der JGU Mainz	2022 – Ongoing (Aug. 2025) 2022 – 2023, Germany 2023 – 2025, Germany
<ul style="list-style-type: none"><li>• Refactored a code-base, greatly increasing the speed, and eliminating previously undetected bugs.</li><li>• Designed, added and integrated major features and a new framework in the code-base.</li><li>• Designed and passed tests for all new features before integrating the changes.</li><li>• Designed and tested my own frameworks for neural simulations.</li></ul>	
<b>Voluntary Teacher in M. Sc. Neuroscience course on Python programming</b> University of Bonn	2024, 2025 Bonn, Germany
<b>Student Assistant in Research</b> University of Edinburgh	2020 – 2021 Edinburgh, UK
<ul style="list-style-type: none"><li>• Performed data analysis on labelling data from Neuropixels recordings.</li><li>• Built data pipelines and analysis tools for human classification problems.</li><li>• Developed neural network-based decoders for Neuropixel data analysis.</li></ul>	
<b>Student Assistant in Research</b> University of Barcelona	2018 – 2020 Barcelona, Spain
<ul style="list-style-type: none"><li>• Performed data analysis on agonist and antagonist experiment data, WB data, protein sequence data.</li></ul>	

### PROJECTS

<b>Development of synaptic plasticity models   Python</b> University of Bonn	2024
<b>Plasticity model framework integration in Spiking Neural Networks code-base   C/C++</b> University of Mainz	2023 <a href="#">TchuSNNNet</a>
<b>Spiking Neural Networks code-base refactor   C/C++</b> University of Mainz	2023 <a href="#">TchuSNNNet</a>

<b>Analysis of genetic covariance and the evolution of asynchronous senescence</b>   R University of Edinburgh	2022
<b>Analysis of neural recordings during behavioural tasks using CNNs</b>   Python University of Edinburgh	2021
<b>Analysis of detection patterns in professional labelling of Neuropixel data</b>   Python University of Edinburgh	2021

## HONORS AND AWARDS

<b>Gold (1st) in Regional Biology Olympiad</b> Price for being 1st in the competition	2016 Spain
<b>Gold (1st) in Regional Chemistry Olympiad</b> Price for being 1st in the competition	2016 Spain
<b>Bronze (7th) in National Chemistry Olympiad</b> Price from being from 7th to 10th in the competition	2016 Spain
<b>Silver (8th) in National Biology Olympiad</b> Price from being from 5th to 8th in the competition	2016 Spain
<b>Silver (10th) in Iberoamerican Biology Olympiad</b> Price from being from 7th to 14th in the competition	2016 Brazil

## WORKSHOPS AND CONFERENCES

<b>Building a Raspberry Pi Cluster</b>	Bonn, 2025
<b>CppCon</b>	Online, 2023
<b>Emergent AI Winter School</b>	Nierstein, 2023
<b>ISRC-CN3</b>	Online, 2021 & Derry/Londonderry, 2023
<b>Bernstein (poster)</b>	Berlin, 2023
<b>Neuromatch</b>	Online, 2023
<b>III EQS</b>	Barcelona ,2021

## LANGUAGES

**Spanish (Native), Catalan (Native), English (C1-C2), German (A2), French (A1)**

## COMPUTER SKILLS

**Programming languages:** C/C++, C, Python, Julia, R, Lua, Bash, Zsh, Powershell, MATLAB, Mathematica  
**Document Creation:** Latex, Libreoffice, Markdown  
**Graphic design:** Inkscape, Graphpad Prism, Matplotlib, Seaborn  
**Version control:** Git  
**Other:** CMake, Make, SLURM, OpenSSH, GraFit, Phy, SPSS

## PRIVATE PROGRAMMING PROJECTS

<b>ENIGMA machine emulator</b>   Python	<a href="https://github.com/tobe2098/denigma">github.com/tobe2098/denigma</a>
<b>Jaipur game emulator and Julia library</b>   C	<a href="https://github.com/tobe2098/JaipurEmulator">github.com/tobe2098/JaipurEmulator</a>
<b>C mutex interface library</b>   C	<a href="https://github.com/tobe2098/c.the_mutex">github.com/tobe2098/c.the_mutex</a>
<b>Memory allocator library</b>   C - In progress	<a href="https://github.com/tobe2098/aberlloc">github.com/tobe2098/aberlloc</a>

Sunday 23<sup>rd</sup> February, 2025

[Bonn, Germany]



Signature