



ANTONI BERTOLIN MONFERRER

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EDUCATION

Doctoral Thesis | *Computational Neuroscience*

University of Bonn

2022 – Ongoing (Aug. 2025)

Bonn, Germany

M. Sc. | *Evolutionary Genetics*

University of Edinburgh

2021 – 2022

Edinburgh, United Kingdom

M. Sc. | *Integrative Neurosciences*

University of Edinburgh

2020 – 2021

Edinburgh, United Kingdom

B. Sc. | *Biochemistry*

University of Barcelona

2016 – 2020

Barcelona, Spain

IB & Spanish High School Diploma

Agora Lledo International School

2014 – 2016

Castellon, Spain

RELEVANT PROFESSIONAL EXPERIENCE

POSITIONS

Scientific Researcher

University Hospital Bonn

University Medicine of JGU Mainz

2022 – Ongoing (Aug. 2025)

2022 – 2023, Germany

2023 – 2025, Germany

- Optimization, debugging, and refactoring of complex C++ codebase for maximum efficiency and maintainability.
- Design, implementation, and integration of core functions and a new framework in C++.
- Comprehensive testing of all new C++ functions before integration.
- Development of custom C++ frameworks for neural simulations.

Lecturer for Python Programming in M. Sc. Neuroscience Course

University of Bonn

2024, 2025

Bonn, Germany

Research Assistant

University of Edinburgh

2020 – 2021

Edinburgh, United Kingdom

- Conducting data analyses for Neuropixel recording tagging.
- Building data pipelines and analysis tools for human classification problems.
- Development of neural network-based decoders for Neuropixel data analysis.

Research Assistant

University of Barcelona

2018 – 2020

Barcelona, Spain

- Data analysis of protein and experimental data.

PROJECTS

Development of Synaptic Plasticity Models <i>Python</i>	2024
University of Bonn	
Integration of Plasticity Model Framework into Spiking Neural Networks <i>C++</i>	2023
University of Mainz	<u>TchuSNNNet</u>
Refactoring of Spiking Neural Networks Codebase <i>C++</i>	2023
University of Mainz	<u>TchuSNNNet</u>
Analysis of Genetic Covariance and Evolution of Asynchronous Senescence <i>R</i>	2022
University of Edinburgh	
Analysis of Neural Recordings during Behavioral Tasks with ANNs <i>Python</i>	2021
University of Edinburgh	
Analysis of Recognition Patterns in Professional Neuropixel Data Tagging <i>Python</i>	2021
University of Edinburgh	

WORKSHOPS AND CONFERENCES

Raspberry Pi Cluster Setup	Bonn, 2025
CppCon	Online, 2023
Emergent AI Winter School	Nierstein, 2023
ISRC-CN3	Online, 2021 & Derry/Londonderry, 2023
Bernstein (Poster)	Berlin, 2023
Neuromatch	Online, 2023
III EQS	Barcelona, 2021

LANGUAGES

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

COMPUTER SKILLS


Programming Languages: C++, C, Python, Julia, R, Lua, Bash, Zsh, Powershell, MATLAB, Mathematica, HTML, CSS
Document Creation: Latex, Libreoffice, Markdown
Graphic Design: Inkscape, Graphpad Prism, Matplotlib, Seaborn
Version Control: Git
Other: CMake, Make, SLURM, OpenSSH, GraFit, Phy, SPSS
Theoretical CS Foundations

PROJECT PORTFOLIO

SNN simulation software <i>C++</i>	<u>TchuSNNNet</u>
ENIGMA Machine Emulator <i>Python</i>	<u>denigma</u>
Jaipur Game Emulator and Julia Library <i>C</i>	<u>JaipurEmulator</u>
C Mutex Interface Library <i>C</i>	<u>C_the_mutex</u>
Memory Allocator Library <i>C - In Progress</i>	<u>aberrloc</u>

Saturday 29th March, 2025

[Bonn, Germany]


Signature