ANTONI BERTOLIN MONFERRER

+49 170 651 3318
antoni.bertolin@gmail.com
Personal page
LinkedIn profile
LeetCode profile

EDUCATION

Doctoral Thesis | *Computational Neuroscience*	2022 – Ongoing (Aug. 2025)
University of Bonn	Bonn, Germany
M. Sc. | *Evolutionary Genetics*	2021 – 2022
University of Edinburgh	Edinburgh, United Kingdom
M. Sc. | *Integrative Neurosciences*	2020 – 2021
University of Edinburgh	Edinburgh, United Kingdom
B. Sc. | *Biochemistry*	2016 – 2020
University of Barcelona	Barcelona, Spain
IB & Spanish High School Diploma	2014 – 2016
Agora Lledo International School	Castellon, Spain

RELEVANT PROFESSIONAL EXPERIENCE

POSITIONS

Scientific Researcher	2022 – Ongoing (Aug. 2025)
University Hospital Bonn	2022 – 2023, Germany
University Medicine of JGU Mainz	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	2024, 2025
University of Bonn	Bonn, Germany

Research Assistant	2020 – 2021
University of Edinburgh	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	2018 – 2020
University of Barcelona	Barcelona, Spain

- Data analysis of protein and experimental data.

PROJECTS

Development of Synaptic Plasticity Models | *Python* — 2024
University of Bonn

Integration of Plasticity Model Framework into Spiking Neural Networks | *C++* — 2023
University of Mainz — TchuSNNet

Refactoring of Spiking Neural Networks Codebase | *C++* — 2023
University of Mainz — TchuSNNet

Analysis of Genetic Covariance and Evolution of Asynchronous Senescence | *R* — 2022
University of Edinburgh

Analysis of Neural Recordings during Behavioral Tasks with ANNs | *Python* — 2021
University of Edinburgh

Analysis of Recognition Patterns in Professional Neuropixel Data Tagging | *Python* — 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** (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
VMs and containers: Docker, LXC/LXD, libvirt, namespaces and cgroups
CI/CD: GitHub Workflows & Actions, Jenkins
Other: CMake, Make, SLURM, OpenSSH, GraFit, Phy, SPSS

PROJECT PORTFOLIO

SNN simulation software	*C++*	TchuSNNet
Ubuntu version fetcher	*C++*	UbuntuVersionFetcher
ENIGMA Machine Emulator	*Python*	denigma
Jaipur Game Emulator and Julia Library	*C*	JaipurEmulator
C Mutex Interface Library	*C*	C_the_mutex
Memory Allocator Library	*C - In Progress*	aberlloc

Saturday 3rd May, 2025   [Bonn, Germany]

Signature