

# Hao-Ting Wang, PhD

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Cognitive neuroscientist with 9+ years of machine learning expertise, 3+ years in deep learning, and 5+ years of contribution history to high-impact open-source projects. Published 35+ peer-reviewed articles (2,700+ citations). Proven proficiency in creating scalable and reproducible workflows for data engineering and machine learning analysis.

## Selected Scientific Projects

### Predicting Alzheimer's disease with transfer learning

2025 – Present

- Collaborated with clinicians to define clinical prediction targets
- Streamlined application of [Hugging Face foundation model of neuroimaging data](#) for zero-shot learning and fine tuning on new data
- Identified shortfalls of the data processing in the original source code

### Neuroimaging time series graph convolutional network model

2023 – 2025

- Established benchmarks for predicting sex, age, mental health disorders, and neurodegeneration
- Refactored models to *PyTorch Lightning*; integrated *Hydra* and *Comet* for orchestration and logging
- Deployed 1000+ experiments adhering to cluster computing policies
- Mentored a PhD student, in one month, to adapt the [workflow](#) to an external dataset

### Neuroimaging data denoising benchmark

2021 – 2023

- Evaluated 10 functional magnetic resonance imaging data denoising strategies across two datasets and two software versions
- Implemented a fully [open-sourced](#) workflow
- Optimised run time from hours to minutes for [cloud deployment](#)
- Published in [PLoS Computational Biology](#)

## Selected Open-Source Contributions

### [Nilearn](#) - Core developer team

2021 - Present

- Project summary: Machine learning library for neuroimaging in Python compatible with [scikit-learn API](#) used by 4.1k+ projects
- Oversaw long-term project development based on trends in research
- Implemented [APIs](#) streamlining neuroimaging data signal processing
- Co-secured a [Chan Zuckerberg Initiative grant \(EOSS Cycle 5\)](#) funding a full-time developer for two years

### [giga-connectome](#) - Lead developer

2022 - Present

- Project summary: containerized software for extracting time-series data from functional magnetic resonance imaging research data
- Oversaw deployment on 100 TB of data and downsampled to 3.6 TB of machine-learning-ready features
- Developed deployable solution across heterogeneous computing environments
- Published in [Journal of Open Source Software](#)

## Technical Skills

**Languages:** Python, TypeScript

**Machine Learning:** Scikit Learn, PyTorch, PyTorch Lightning

**High Performance Computing:** Bash, Linux, SLURM, Sun Grid Engine, joblib

**DevOps:** Git, GitHub Actions, CircleCI, Docker, Apptainer/Singularity

**MLOps:** Hydra, Weights & Biases, CometML, HuggingFace, Apache Arrow

## Personal Skills

Analytical evaluation on data to draw insights for technical solutions

Forward thinking and long term planning for projects longevity

## Selected Awards

2024 [Canadian Neuroanalytic Scholar](#)

2023 [Neuro-Irv and Helga Cooper Foundation Open Science Prize](#)

## Work Experience

**Postdoctoral Researcher**

Aug. 2021 - Present

Montreal Geriatric Institute (CRIUGM), QC, Canada

**Postdoctoral Research Fellow**

Sep. 2019 - Aug. 2021

Sussex Centre for Consciousness Science, University of Sussex, UK

## Education

**PhD in Cognitive Neuroscience and Neuroimaging**

2015 - 2019 | University of York, UK

**Master of Research in Psychology**

2015 - 2019 | University of York, UK

**Bachelor of Science in Psychology**

2009 - 2013 | National Chengchi University, Taiwan

## Languages

English, Mandarin (Fluent)

French (Conversational)