Tom P. A. Warner

Email: tom.p.a.warner@gmail.com
Github: https://github.com/warnerwarner
Website: www.tpawarner.com

Personal profile

I am a recently submitted PhD candidate working in Systems Neuroscience, an interdisciplinary field of research. My work has allowed me to learn a wide range of techniques, from surgeries to machine learning. During my PhD I acquired an appreciation for the application and evolution of machine learning techniques and want to transition towards this field.

Skills profile

Computational skills

- Languages:
  - Python – 7 years of experience
  - MATLAB – 3 years of experience
  - C++, Java – 2 years of experience
  - JavaScript – > 1 year of experience
- Experience in constructing multistage analysis pipelines for large datasets
- Adept in distributed computing and workload managers e.g. SLURM/Dask
- Experience in accelerated computing techniques e.g. CUDA
- Experience in using Git both for individual and collaborative projects

Technical skills

- Strong mathematical ability, confident in linear algebra and statistics
- Experience with electrical engineering and circuit construction
- Confident in multi-stage modelling of real-world data
- Application of both supervised and unsupervised machine learning techniques to both modelled and real-world data, e.g. support vector machines, linear and logistic regression, PCA, K nearest neighbours, etc.

General skills

- Excellent written and verbal communicator – experience delivering presentations to both expert and general audiences
- Experience in leadership roles, i.e. coordinating a team to devise and deliver a scientific outreach event.

Education

PhD Neurophysiology **2017-2022**
"Projection neurone encoding of single sniff high frequency stimuli"
The Francis Crick Institute, awarded by King College London

MSci Physics – *First class honours* **2013-2017**
Master's project: "Optimising soft cantilevers for use in liquid tapping mode AFM"
University College London

A levels: A* Maths, A* Physics, A Chemistry **2011-2013**
Thomas Tallis Secondary School

Publications

Coupling of Mouse Olfactory Bulb Projection Neurones to Fluctuating Odour Pulses
D. Dasgupta, **T.P.A. Warner**, A. Erskine, A.T. Schaefer
Journal of Neuroscience - 2022

jULIEs: nanostructured polytrodes for low traumatic extracellular recordings and stimulation in the mammalian brain
R.R. Racz, M. Kollo, G. Racz, C. Bulz, T. Ackels, **T.P.A. Warner,** W. Wray, N. Kiskin, C. Chen, Z. Ye, L. de Hoz, E. Rancz, A.T. Schaefer
Journal of Neural Engineering - 2022

Fast odour dynamics are encoded in the olfactory system and guide behaviour
T. Ackels, A. Erskine, D. Dasgupta, A.C. Marin, **T.P.A. Warner**, S. Tootoonian, I. Fukunaga, J.J. Harris, A.T. Schaefer
Nature - 2021

Volunteer and Work Experience

Summer student host **2022**
The Francis Crick Institute
Hosted secondary school students and designed tasks aimed for them to understand the role of a researcher

Volunteer tutor **2020-Present**
The Access Project
Tutoring Both Chemistry and Physics to AS and A level students

Demystifying dangerous diseases **2019**
Bluedot Science and Music Festival
Assisted in the design and implementation of a science outreach event aimed at children and families focused around viral and bacterial pathogens

The Crick Data Challenge **2018**
The Francis Crick Institute
In-building hackathon aimed at assisting other researchers struggling with their data analysis

Spikeling/Place cell game **2018-2019**
The Francis Crick Discovery Day and Crick Late events
Developed and implemented a science outreach task aimed at both adults and children focused on the roles of different neurones in the brain.

Mathematics Tutor **2015-2016**
Parch Hill Tutors

Volunteer First aider **2011-2014**
St John's Ambulance