Arian Rokkum Jamasb

arian@jamasb.io

Date of Birth: 5^{th} June 1996 | **Nationality:** Norwegian | **Webpage:** jamasb.io

Education

2018-(2022) *PhD.* **Computational Biology Group, Artificial Intelligence Group, Department of Computer Science and Department of Biochemistry, University of Cambridge**
Artificial intelligence methods & multiplex network modelling for drug discovery.
Supervisor: Professor Sir Tom Blundell, Department of Biochemistry.
Second Supervisor: Professor Pietro Lió, Department of Computer Science and Technology.

2014-2017 *BSc.* **Biochemistry, Imperial College London** (1^{st} Class Honours)
Dissertation: Automated Quantification of Cells Across Whole-Brain Image Volumes.
Specialist modules: Bioinformatics, Integrative Systems Biology, Neuroscience Research.

2007-2014 **The Perse School, Cambridge**. Academic Scholar.
A Levels: Mathematics, Further Mathematics, Biology, Chemistry

Research Experience

2017-2018 *Graduate Research Assistant. Drosophila* Connectomics Group, Department of Zoology, University of Cambridge. **Neural Circuit Reconstruction and Connectomic Analysis of a Whole-Brain *Drosophila* EM Volume** (Dr. G. Jefferis, Dr. M. Costa).

- Examining odour information integration circuits and their role in innate sexual behaviour
- Neuroinformatics, development of computational tools, Analysis of electron micrographs
- Statistical image analysis, image registration

2017 *Undergraduate Dissertation.* Department of Life Sciences, Imperial College London. **Automated Quantification of Neuronal Distribution Across Whole-Brain Image Volumes** (Prof S. Brickley).

- Image processing, computer vision, algorithm design
- Whole-brain 2-photon imaging in mice
- Bioinformatics

2016-2017 *Undergraduate Research Assistant.* Department of Life Sciences, Imperial College London. **Developing a Dynamic Optogenetics System for High-Throughput Behavioural Manipulation of *Drosophila*** (Dr G. Gilestro).

- Statistical analysis and modelling of large time data
- Computer-aided design (CAD), 3D printing and electrical engineering
- Machine learning applied to behaviour analysis

Scientific Computing and Programming[1]

`R` *Highly competent*: base functions, statistics, algebra, data visualisation and package development.
`python` *Highly competent*: scientific computing, data analysis, machine learning, deep learning
`Frameworks` *Highly Competent*: `PyTorch`, `Tensorflow`, `Keras`
System *Competent*: GNU/Linux.
Web *Competent*: `javascript` and `HTML`/`CSS`.

[1] Most of my contributions are open-source and publicly available (see github.com/a-r-j)

Publications[2]

2019 **Functional and Anatomical Specificity in a Higher Olfactory Centre**. S. Frechter, A. S. Bates, S. Tootoonian, M. J. Dolan, J. D. Manton, **A. R. Jamasb**, J. Kohl, D. Bock, G. S. X. E. Jefferis. *eLife*

2017 **Ethoscopes: An Open Platform for High-Throughput Ethomics.** Q. Geissmann, L. García Rodriguez, E. J. Beckwith, A. S. French, **A. R. Jamasb**, and G. F. Gilestro. *PLoS Biology.*

In Preparation

2019 **Graphein - Deep Prediction of Protein-Ligand Interaction Affinities Using a Novel Graph Mutual Conditioning Mechanism**. **A. R. Jamasb**, L. Copoiu, P. Lió, T. L. Blundell

DeepProt - A Deep Learning Library for Proteins. **A. R. Jamasb**

Benchmarks, Datasets & Requirements: Defining Graph-based Learning Problems in Protein Science and Drug Discovery. A. R. Jamasb, L. Copoiu, P. Lió, T. L. Blundell

Forthcoming

2020 **Delta2D+ - Assigning Secondary Structure to Disordered Proteins using Deep Learning in Limited Data Scenarios**. **A. R. Jamasb** & A. Possenti & P. Lió

The Synaptic Organisation of Olfactory Projection Neurons in the Lateral Horn. A. S. Bates & P. Schlegel, . . . , **A. R. Jamasb**, . . . *et al.* (Exact authors TBC.)

The Role of Non-Canonical Muliglomerular Olfactory Projection Neurons in Courtship in Female *Drosophila*. **A. R. Jamasb** & I. Taisz *et al.* (Exact authors TBC.)

Teaching, Volunteering and Outreach

2019 Local Organiser, *IWBDA Conference*
Events Officer, *Queens' College MCR*
2018 Volunteer Demonstrator, Science Festival, *University of Cambridge*
2016 Webmaster, *Imperial College Biochemistry Society*
Public engagement volunteer, *Biochemical Society*
Public engagement volunteer, *Royal Society of Biology.*
2014 Volunteer tutor in mathematics, *Queen Edith's Primary School, Cambridge*

References

PhD Supervisor: Professor Sir Tom Blundell (tom@bioc.cryst.cam.ac.uk)
PhD Supervisor: Professor Pietro Lió (pl219@cam.ac.uk)
PI, Drosophila Connectomics Group: Dr Gregory Jefferis (jefferis@mrc-lmb.ac.uk)
Project Leader, Drosophila Connectomics Group: Dr Marta Costa (mmc46@cam.ac.uk)
Undergraduate Personal Tutor: Professor Anne Dell (a.dell@imperial.ac.uk)
Undergraduate Research Supervisor Dr Giorgio Gilestro (g.gilestro@imperial.ac.uk)

[2]All publications in the top 5% of research outputs tracked by Altmetric. Detailed list on my webpage (jamasb.io#publications)