

**Data Scientist
Information for Candidates**



Sainsbury Wellcome Centre for Neural Circuits and Behaviour at UCL



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JOB DESCRIPTION

Vacancy Reference:	1863239
Job Title:	Data Scientist
Department:	Sainsbury Wellcome Centre
Salary:	Competitive Salary and Benefits
Grade:	8
Hours:	36.5 per week (full-time, 1.00 FTE)
Reports to:	SWC Director

About the Sainsbury Wellcome Centre

The [Sainsbury Wellcome Centre \(SWC\)](#) brings together world-leading scientists to investigate how brain circuits process information to generate perception, form memories and guide behaviour. Developed through the vision and partnership of the Gatsby Charitable Foundation and Wellcome, and with substantial investment from these partners, the mission of the SWC is to generate and test experimentally tractable theories of brain function.

The Centre will comprise around 14 highly interdisciplinary experimental research groups accommodated in a new, purpose-designed building, offering an outstanding and unparalleled research environment. SWC scientists use a broad spectrum of the latest advances in molecular and cellular biology, imaging, electrophysiology and behavioural techniques and enjoy state-of-the-art research laboratories, cutting-edge scientific equipment, technologically-advanced prototyping and fabrication laboratories and custom in-house high-performance computing facilities.

The full complement of scientists in the Centre is expected to reach around 150 together with circa 50 dedicated support staff. Scientists at the Centre collaborate closely with experts in neural theory, statistics and machine learning at the Gatsby Computational Neuroscience Unit (GCNU) located within our building.

The Sainsbury Wellcome Centre is part of the [UCL School of Life and Medical Sciences](#) (SLMS). Further details about the SWC can be found at www.ucl.ac.uk/swc. SLMS brings together four UCL Faculties to create one of the

largest and most prestigious aggregations of academics in biomedical, life and population health sciences worldwide. Further details about UCL can be found at www.ucl.ac.uk.

The Role of the Data Scientist

Research in the [Mrsic-Flogel lab](#) is focused on understanding the relationship between neural activity and behaviour in order to provide algorithmic explanations for behaviour. We record neural activity in behaving animals performing complex decision-making tasks using a range of cutting edge techniques such as wide field of view multi-photon imaging and high channel count "Neuropixels" electrode arrays.

The role of the Data Scientist is at the intersection of experimental neuroscience and advanced data analysis approaches. The role will be to craft the core analysis pipelines which convert raw data into meaningful information and will involve the maintenance of our existing high quality code-bases and developing new software as our experimental questions evolve. The code will be open, robust, scalable, well-documented and produced in collaboration with both experimentalists and computational neuroscientists, and shareable with the wider research community.

The role may also involve the development of new data architectures, allowing for efficient querying and processing of large-scale datasets.

The post-holder will have opportunities to become involved in the research questions themselves, co-author papers, attend conferences, attend courses, and learn new skills and establish collaborations via interactions within the Sainsbury Wellcome Centre, Gatsby Computational Neuroscience Unit,



JOB DESCRIPTION

University College London, International Brain Laboratory, and beyond.

This post is funded for two years in the first instance.

Main Duties and Responsibilities

Software design and implementation

- Work with experimentalists to design, implement, and maintain robust software for handling neural and behavioural data from a range acquisition modalities.
- Develop and maintain existing MATLAB-based or Python-based data analysis code.
- Analyse the data of the design specification and implementation of the software, suitable for developers and power-users seeking to maintain or extend it.
- Provide documentation suitable for end users.
- Advise on the computational hardware necessary for the efficient operation of the software.
- Publish code on GitHub or similar for use by the community.

Communication and team work

- Liaise with existing IT support staff in the department with regards to data storage and cluster access (high-performance computing).
- Work with end users to adapt data formats, interfaces and algorithms to address their needs.
- Work one-to-one with end-users to assist in problem solving.
- Ensure end users are aware of best practices regarding coding, version control, etc.
- Collaborate with external and internal stakeholders as well as research groups to adapt existing algorithms or software tools to new contexts.

Other

- Maintain the group's Linux analysis workstations, ensuring users have access to adequate computing resources and are using those resources efficiently.
- Advise on specs for new computing hardware and making hardware purchases.
- Advise, train and support experimentalists in basic maintenance of Windows-based data acquisition machines.

- Continue to update skills and education as required.
- Attend research seminars pertinent to the post as designated by your supervisor.

The above description is not exhaustive and the post-holder will be required to undertake any other duties as may reasonably be requested within the scope, spirit and purpose of the post. Job descriptions are reviewed on a regular basis including at the annual appraisal. As duties and responsibilities change, the job description may be amended in consultation with the post-holder.

The post-holder will be expected to actively follow all UCL policies and procedures including Equality, Diversity and Inclusion, maintain an awareness of Fire and Health & Safety Regulations, attend management meetings and undertake such training and development as may be required for the post.

All staff are required to act professionally, co-operatively and flexibly in line with the requirements of the post.



PERSON SPECIFICATION

Selection Criteria

The selection criteria outline the skills, knowledge and experience required in order to perform this role. Applicants will be selected based on how well they demonstrate that they meet the essential, and if appropriate, desirable criteria for this particular role.

	Essential	Desirable
Qualifications		
A PhD, equivalent degree, or equivalent experience following a post-graduate degree in machine learning, statistics, computer science, engineering, computational neuroscience, or a related field.	X	
Knowledge and experience		
Substantial experience and knowledge of software development best practice including testing, documentation, version control, object-oriented design, etc.	X	
Substantial experience with at least one of Python/NumPy or MATLAB; and good familiarity with the other.	X	
Good general knowledge of Linux desktop system administration.	X	
Education or experience in systems neuroscience and working with neural data.		X
Knowledge of data acquisition using National Instruments DAQmx		X
Familiarity with machine learning methods		X
A good working knowledge of linear algebra, probabilistic modelling and inference, along with strong analytical and mathematical skills.		X
Skills		
Proven ability to write clear, well-documented, well-maintained, and scalable code.	X	
Able to build strong collaborative working relationships with colleagues to deliver successful research outcomes.	X	
Strong written and oral communication skills, with the ability to present complex information clearly and effectively	X	
Proven ability to work pragmatically, managing multiple concurrent tasks and activities, working to deadlines and prioritising as appropriate	X	
Other Requirements		
Commitment to maintainable, documented, open-source software in an academic environment.	X	
Works ethically, legally and with integrity	X	
An understanding and appreciation of the mission and research environment of the Sainsbury Wellcome Centre and Gatsby Computational Neuroscience Unit, and a commitment to building the reputation of the SWC and GCNU as world-leading research centres.	X	
Accountable, reliable and resourceful	X	



HOW TO APPLY & TERMS OF APPOINTMENT

Contact Us

If you have any queries relating to the vacancy or how to apply please contact Thomas Mrsic-Flogel, t.mrsic-flogel@ucl.ac.uk or the SWC HR team, swc.hr@ucl.ac.uk, +44 (0)20 3108 8011.

Applying for the Role

To begin the online application process, please access the advertisement by searching for it on the UCL vacancy search page (<http://www.ucl.ac.uk/hr/jobs/>) using the vacancy reference number, and click on the “Apply Now” button at the bottom of the vacancy advertisement.

Please complete the online application form, and use the supporting statement section to outline how you meet the selection criteria. Applications will be shortlisted based on the strength of the examples used to demonstrate that the applicant meets the selection criteria.

Please note that there is a limit of 2,500 words to explain how you meet the essential criteria, and a limit of 2,500 words to explain how you meet the desirable criteria.

All candidates will be notified of the outcome of their application.

Pre-employment Checks

Confirmation of appointment will be subject to receipt of satisfactory references, verification of proof of right to work in the UK and to satisfactory pre-employment health and security screening. The Centre will provide overseas candidates who may require sponsorship with support in seeking an appropriate visa.

Salary

Starting salary will be on the Grade 8 scale according to relevant skills, knowledge, experience and achievement. Staff incrementally progress along the salary scale; the effective date of incremental progression is 01 August each year. You must have completed the period of service stipulated in your contract of employment (typically your probationary period) to be eligible to increment. Incremental progression does not include the discretionary contribution points on the salary scale. Cost of living pay awards are negotiated nationally and are normally effective from 1 August each year.

Pension

Post-holders will be eligible to join Universities Superannuation Scheme (USS), subject to the Scheme's rules and eligibility conditions.

Conditions of Service

Conditions of Service for Research, Teaching and Professional Services Staff can be found at:

<https://www.ucl.ac.uk/human-resources/conditions-service-research-teaching-and-professional-services-staff>.

Probation

Appointments are subject to a probationary period of 9 months.

Hours of Work and Overtime

UCL's full time working week is 36.5 hours per week. SWC is willing to consider flexible-working arrangements, subject to discussion and agreement with your line manager.

Pre-agreed overtime will be offered as equivalent time off in lieu.

Annual Leave

Staff are entitled to 27 days annual leave per year (pro rata for part-time staff). In addition, staff are entitled to 8 days public and statutory holidays, and around 6 UCL closure days with pay per year.

Location

The Sainsbury Wellcome Centre is located in the heart of London around five minutes' walk from the main UCL campus. The mainline railway stations at Euston, King's Cross, St Pancras, Marylebone and Paddington are within easy reach as are the London Underground stations located at Warren Street and Godge Street.

Equal Opportunities

SWC is committed to the promotion of equality, diversity and inclusion for its staff, students and visitors and is fully supportive of UCL's policy; the full equality policy statement is available online:

https://www.ucl.ac.uk/human-resources/sites/human-resources/files/equal_opportunity_policy_statement.pdf.

SWC is currently working towards an [Athena SWAN](#) award.