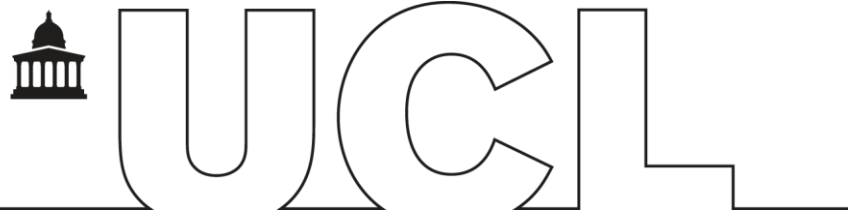


**GATSBY COMPUTATIONAL NEUROSCIENCE UNIT**



**FACULTY POSITION IN MACHINE LEARNING OR STATISTICS**

**GATSBY COMPUTATIONAL NEUROSCIENCE UNIT**

**FURTHER PARTICULARS**

**Gatsby Computational Neuroscience Unit  
Queen Square**

This document sets out the following information for the post of Faculty Member in Machine Learning or Statistics at the Gatsby Computational Neuroscience Unit.

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### **Application Procedure**

Applications for the position should be made online at <http://www.ucl.ac.uk/hr/jobs/> . Applications should include:

- a curriculum vitae
- a statement of personal research interests and accomplishments
- a statement of teaching experience
- full contact details (including e-mail addresses) of three academic referees
- details of current salary

If you have any queries regarding the application process, please contact Ms Reign MacMillan, Administrative Manager, Gatsby Computational Neuroscience Unit (email: [reign.macmillan@ucl.ac.uk](mailto:reign.macmillan@ucl.ac.uk)).

Informal enquiries about the post are welcome to Professor Peter Dayan, Director of the Gatsby Unit, at [dayan@gatsby.ucl.ac.uk](mailto:dayan@gatsby.ucl.ac.uk).

Please quote reference **1377243** in all correspondence.

Closing date: **Wednesday January 8<sup>th</sup>, 2014**

References are typically taken up prior to shortlisting.

It is anticipated that interviews will be held in March 2014.

We particularly welcome female applicants and those from an ethnic minority, as they are currently under-represented within UCL at this level. This is in line with section 48 of the Sex Discrimination Act and section 38 of the Race Relations Act.

## **The Gatsby Unit**

The Gatsby Computational Neuroscience Unit was created at UCL in July 1998 with funding from the Gatsby Charitable Foundation to be a world-class centre for theoretical neuroscience and machine learning. The Unit's core strengths are in statistical machine learning and computationally and probabilistically oriented theoretical neuroscience. In machine learning, our work has included parametric and non-parametric Bayesian methods, graphical models, sampled and deterministic approximate inference and learning methods, and kernel-based approaches to hypothesis testing, Bayesian inference and beyond. These are applied to a wide range of problems, including those coming from neuroscience. As a high profile, international research centre, the Unit has in place extensive visitor, seminar and workshop programmes in order to promote cooperation within the broader academic community. The Unit is about to move into a brand new building, to be shared with the nascent Sainsbury-Wellcome Centre for Neural Circuits and Behaviour, affording extensive new opportunities for collaboration and application.

Further information about the Unit may be found at: <http://www.gatsby.ucl.ac.uk>

## **The Centre for Computational Statistics and Machine Learning**

Collaboration is essential to the work of the Unit. Within UCL, the Unit is one of the founder institutions of the Centre for Computational Statistics and Machine Learning (CSML), which also involves the Departments of Computer Science and Statistical Science.

Further details about CSML can be found at <http://www.csml.ucl.ac.uk/>.

## **About UCL**

UCL is one of the UK's leading universities; a world-class multidisciplinary research and teaching institution. Founded in 1826, UCL was the first university in England to admit students regardless of race, religion or gender. It continues to thrive on the creativity and diversity of its community which today comprises 8,000 staff, and 12,000 undergraduates and 7,000 graduate students from 130 countries across the globe.

Constitutionally part of the federal University of London, UCL is in practice an independent university, with an annual turnover of over £500 million. Its 70 departments span arts and humanities, social and historical sciences, law, architecture and the built environment, engineering sciences, mathematical and physical sciences, life and clinical sciences, and medicine.

75% of UCL's departments received ratings of 'excellent' in national teaching quality reviews carried out between 1993 and 2001 and 60 departments achieved top (grade 5 and 5\*) ratings in the 2001 Research Assessment Exercise. As a result of its track record, UCL receives substantial funding from government and charities, and more than £350 million is currently being invested in state-of-the-art facilities for cutting-edge research and teaching.

Situated at the heart of one of the world's greatest cities, UCL's historic central campus in Bloomsbury is within easy reach of several rail and underground stations, the Eurostar terminal and Heathrow airport.

A full profile can be found at: [http://www.ucl.ac.uk/hr/docs/UCLstandard\\_information.php](http://www.ucl.ac.uk/hr/docs/UCLstandard_information.php)

## **Job Description and Person Specification**

We especially seek candidates who work in probabilistic or statistical machine learning. However, Unit faculty have freedom to pursue and develop their own lines of research subject to the success of their research endeavours and compatibility with the overall needs and research aims of the Unit. Collaboration within and outside the Unit is essential and supported through the provision of a generous annual travel allowance to support conference, workshop and collaborative research visits.

Members of the Unit are interested across the spectrum of machine learning including inference, modelling and visualization, and in models of all aspects of brain function.

### ***Job Description***

Main duties and responsibilities:

- To plan and execute high quality, internationally-influential research in line with personal objectives agreed on appointment, and as subsequently refined through a review and appraisal process.
- To produce publications, conference papers and other research outputs describing this work which are presented in appropriate journals and leading conferences in the field, and thereby contribute to the national and international profile of the Unit.
- To prepare and present findings of research activity for review, development or collaborative purposes.
- To engage actively with the international machine learning research community.
- To contribute to the planning and coordination of internal and external seminars, conferences and workshops organised by the Unit and aimed at sharing research outcomes, building interdisciplinary collaboration within and outside the Unit, and mutual education.
- As required, to prepare and submit research bids and proposals in existing and new areas of research.
- To supervise, mentor and support postdoctoral training fellows and research students (MPhil/PhD).
- To undertake development, planning and teaching in relation to the Unit's taught induction programme for research students and to assist with associated assessment, examination and administration. This course is currently taught in association with UCL's wider Centre for Computational Statistics and Machine Learning (CSML).
- To contribute positively to the overall activities and general citizenship of the Unit and to carry out any other duties as are within the scope, spirit and purpose of the position.
- To maintain personal academic and professional development.

- As appropriate to research interests, to engage proactively and constructively in research and educational collaborations across UCL, including the rest of the Unit, CSML and the Sainsbury Wellcome Centre for Neural Circuits and Behaviour,
- To follow and promote UCL policies in an active manner, including its Equal Opportunities policies.
- To maintain an awareness and observation of Fire and Health & Safety Regulations.

Note: This description reflects the present requirements of the position. As responsibilities change and develop, the description may be reviewed and amended in consultation with the postholder.

### ***Person Specification***

The following are considered to be essential characteristics.

#### Background and Experience:

- A very strong analytical background in machine learning, mathematics, physics, computer science, statistics and/or engineering. Faculty are expected to have a detailed knowledge and understanding of the literature in their appointed research fields, be proficient in its application and have a ready ability to acquire and absorb new information, methods and techniques in the service of research goals.
- A proven ability to conduct high quality research in appropriate research areas, as reflected in a strong publication record and peer recognition in the subject area.
- Evidence of the ability to teach and to supervise student and postdoctoral research.
- Experience of interdisciplinary working and research in appropriate subject areas.
- Proven experience of the ability to manage time and work to strict deadlines.

#### *Additionally for Senior Level:*

- An internationally recognized track record of high quality, peer-reviewed publications in the subject area
- Proven research collaboration with other research teams, institutions or individuals
- Evidence of the ability to attract external research grant funding, and to manage funded research programmes

#### Knowledge – including Qualifications:

A PhD in a relevant subject area, relevant postdoctoral experience and an expert knowledge of the field of machine learning and its associated research methods and techniques.

Skills:

- Strong mathematical, analytical and computational skills and the ability to apply these to machine learning research.
- The ability to present research clearly in written and verbal forms.
- Effective written and verbal communication.
- Effective teaching and mentoring.

*Additionally for Senior Level:*

- Demonstrated capacity for academic leadership

Personal Qualities:

- The ability to present complex information effectively to a range of audiences.
- A commitment to high quality academic research and learning in the area of machine learning.
- A commitment to fostering a positive learning and training environment for students and postdoctoral fellows.
- The ability to initiate collaborations, and to work collaboratively and as part of a team.
- A commitment to continuous academic and professional development.
- A commitment to UCL's policy of equal opportunity and a willingness to work harmoniously with colleagues and students of all cultures and backgrounds.

In addition to the person specification criteria, the successful candidate will need to meet UCL's expectations of:

1. Academic excellence, as outlined in 'Excellence and the UCL community: a shared endeavour' (<http://www.ucl.ac.uk/excellence/>), and

Hard copies of these documents are available on request. These will inform the candidate's induction, probation, and appraisal, in discussion with the Director of the Unit

Gatsby Unit  
October 2013