

THE CAMBRIDGE STATISTICS DISCUSSION GROUP

Tuesday 10th October 2017 7:15 for 7:45

Large Lecture Theatre,
MRC Cognition and Brain Sciences Unit,
Chaucer Road, Cambridge, CB2 7EF

Probabilistic machine learning: foundations and frontiers

Zoubin Ghahramani
Department of Engineering

Abstract: Probabilistic modelling provides a mathematical framework for understanding what learning is, and has therefore emerged as one of the principal approaches for designing computer algorithms that learn from data acquired through experience. I will review the foundations of the field of probabilistic machine learning. I will then highlight some current areas of research at the frontiers of machine learning, leading up to topics such as Bayesian deep learning, probabilistic programming, Bayesian optimisation, the rational allocation of computational resources, and the Automatic Statistician.

Speaker: Zoubin Ghahramani is a Professor at the University of Cambridge leading the Machine Learning group, and the Chief Scientist at Uber. He is also Deputy Director of the Leverhulme Centre for the Future of Intelligence, was a founding Cambridge Director of the Alan Turing Institute. His research focuses on probabilistic approaches to machine learning and AI. In 2015 he was elected a Fellow of the Royal Society.

Annual General Meeting: Zoubin's talk will be preceded by a brief Annual General Meeting.

Directions Chaucer Road is off Trumpington Road – if you are heading away from the city centre it is the first right after the junction with Brooklands Avenue. Number 15 is at the end on the left and is a large Victorian House with a more modern extension to its right. The entrance is in the porch located in the middle of the older section on the left as you come in and is accessed by ascending a few steps from the car park. Cars may be parked there. Note due to building work please enter and leave car park via the 'OUT' entrance (the second of the two entrances on the left as you go down Chaucer Road). The outside door will be locked at 7:45.

Arrivals after 7:45pm can gain admittance by contacting the secretary on 07761769436. A map showing the location of the unit is at <http://www.mrc-cbu.cam.ac.uk/contact-us>.

Provisional Next Meetings:

14th November – Adam Kashlak (Statistical Laboratory) on 'The frequency of 'America' in America'.

5th February 2018 – Anthony Edwards (Gonville & Caius) on 'Cambridge Statistics from Venn to Fisher and Beyond'.

1st March – Nicole Janz (Sociology).

28th March – Sylvia Richardson (Biostatistics).

26th April – Robert Kozarski (AstraZeneca) on 'Pre-clinical and clinical drug development from a Pharmaceutical Statistician perspective'.

Supper: Some members eat before a talk at the University Centre meeting in the Granta Lounge at **5-45pm**. All welcome!

Secretary: Peter Watson, MRC Cognition and Brain Sciences Unit, 15 Chaucer Road, Cambridge CB2 7EF;

telephone 01223 355294 Extension 801; E-mail peter.watson@mrc-cbu.cam.ac.uk

For security purposes could you please let Peter Watson know if you intend attending the talk.

Slides and .mp3 files of old talks: <http://www.mrc-cbu.cam.ac.uk/people/peter.watson/csdg.html>

TURN OVER for the Annual General Meeting agenda

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Annual General Meeting

The annual general meeting will be followed immediately by Zoubin's talk 'Probabilistic machine learning: foundations and frontiers'.

Agenda:

0. Approval of Minutes of previous A.G.M.
(<http://imaging.mrc-cbu.cam.ac.uk/statswiki/csdg/newtalks>)
1. Treasurer's Report.
2. Secretary's Report.
3. Election of Chairman, Secretary, Treasurer, plus 3 other members of the Committee.
4. Any Other Business.

Rules for Election:

1. FRANCISE: All paid-up members may vote or stand for office.
2. NOMINATIONS: The offices to be filled are Chairman, Secretary and Treasurer and three other members of the Committee.

An outgoing Chairman will be a member of the Committee *ex officio*. At the end of each year the entire Committee will stand down, but may stand again for the same office as they are leaving without nomination. To be elected to a different office a candidate must be nominated by one person from the paid-up membership, not including himself. Nominations do not require a seconder to be valid, but do require the consent of the nominee. One person can be nominated for more than one office, but hold only one. If a person is elected to a higher office (according to the ordering given below) he or she automatically ceases to be a candidate for a lower office. A candidate for the post of Chairman, Secretary, Treasurer is automatically a candidate for the Committee if he or she fails to gain election to one of these three posts.

TURN OVER for directions to the Cognition and Brain Sciences Unit and abstract of Zoubin's talk