



MATHS4DL DEEP LEARNING FOR INDUSTRY WORKSHOP



UNIVERSITY OF BATH 19-20 JANUARY 2023

Organised as part of the EPSRC Maths4DL Programme Grant on the Mathematics of Deep Learning.

BACKGROUND

Machine learning, in particular Deep Learning (DL) based on 'neural networks', is one of the fastest growing areas of modern science and technology, which has potentially an enormous and transformative impact on all areas of our lives. The applications of DL embrace many disciplines such as biomedical sciences, computer vision, the physical sciences, the environmental sciences, the social sciences, speech recognition, gaming, music and finance.

However, alongside this explosive growth has been a concern about the lack of understanding behind DL and the way that DL based algorithms make their decisions. This leads to a lack of trustworthiness in the use of some of these algorithms. A reason for this is that the huge successes of Deep Learning are not all well understood, the results are sometimes mysterious, and there is often a lack of a clear link between the data training DL algorithms, and the decisions made by those algorithms. Despite this, there is enormous potential for the use of DL in industry if used with care and understanding.

OBJECTIVES

This meeting will be a two day brainstorming/study group meeting aimed at industries, and other bodies, that want to know more about how deep learning can impact on them, and its strengths and limitations. It will be a mixture of tutorial presentations about deep learning, industrial presentations, and problem solving sessions. Each industry representative coming will be invited to give a short presentation about areas of their work in which they believe that deep learning can make an impact. There will then be a series of breakout sessions between the industrialists, academics and students working in deep learning, exploring the issues and problems raised by the presentations.

The meeting is aimed both at industrialists who want to learn more about deep learning, and academics working in the field who want to make more contacts with industry. To encourage collaborations, there will be significant time for interaction and networking.

PROGRAMME

19th January 10.00 – 5.00pm

- 10.00 – 10.15 Arrival, tea and coffee
- 10.15 – 10.30 Introductions
- 10.30 – 11.30 Tutorial talks
- 11.30 – 13.00 Short presentations from industrialists
- 13.00 – 14.00 Lunch
- 14.00 - 16.00 Breakout sessions
- 16.00 – 17.00 Summary of work in breakout groups
- 17.00 – 17.45 Reception
- 18.45 Dinner in Bath

20th January 9.30 – 4.30pm

- 09.30 – 10.00 Arrival, tea and coffee
- 10.00 – 11.00 Tutorial talks
- 11.00 - 12.00 Short presentations from industrialists
- 12.00 - 13.00 Breakout sessions
- 13.00 – 14.00 Lunch
- 14.00 - 15.00 Breakout sessions
- 15.00 - 16.30 Feedback session
- 16.30 Coffee and close

Register here

FOR MORE INFORMATION:



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www.maths4dl.com