UDRC Themed Meeting Agenda – Deep Learning and Defence

As part of the UDRC phase III, our second themed meeting on Deep Learning and Machine Learning will be held on **Thursday 14th November 2019**, at Queen's University Belfast. This event is intended for academic researchers, industrial partners and Dstl staff to learn about and discuss current trends in deep learning.

The program will consists of a series of talks covering modern machine learning and its applications to current defence /security problems, followed by a network session. We will also present a Dstl Challenge competition.

Location: The Seminar Room (1st floor), ECIT, Catalyst Inc., Queen's Rd, Belfast, BT3 9DT

9:00   Refreshments

9:15   Welcome and introduction to the day, Neil Robertson, Queen's University Belfast

9:25   Semantic information pursuit in multi-modal data: MURI project report, John Shawe-Taylor, University College London

10:10   Industrial Use Case and Lessons Learned, Chris Dickson, Thales

10:40   Refreshments

11:00   Multi-label Classification: A Deep Sparse Decomposition Perspective, Mehrdad Yaghoobi, University of Edinburgh

11:20   Robust Generative NNs, Nikolaos Dionelis, University of Edinburgh

11:40   Deep Learning with Guarantees, Henry Gouk, University of Edinburgh

12:00   Single Image Super-Resolution via CNN Architectures and TV-TV Minimization, Joao Mota, Heriot-Watt University

12:20   Multi-modal Fusion, Shiyang Yan, Queen's University Belfast

12:40   Lunch

13:25   Open industry problems - 5 minute pitches

13:55   Dstl Challenge Competition

Automatic Target Detection in 3D Ground-Penetrating Radar Data, Nigel Davidson, Dstl

Multiple Signal Tracking using a Simulated Passive Sonar Array in Real-time or Less, Nicholas Walton, Dstl

14:55   Refreshments

15:15   Dstl: AI Building Blocks for Defence and Security, Jordi Barr, Dstl

15:45   Plenary discussion (industry, Dstl and academia) - debate role of ML in defence

16:30   Close