# Preface

Recent advances in Deep Learning have helped to usher in a new wave of confidence in the capability of artificial intelligence. Increasingly, we are seeing DL architectures outperform long established state-of-the-art algorithms in a number of diverse tasks. In fact, DL has reached a point where it currently rivals or has surpassed human performance in a number of challenges e.g. image classification, speech recognition and board games. The successes of Deep Learning call for novel methods and techniques that exploit Deep Learning for the benefit of Case-based reasoning (CBR). The potentials of Deep Learning for CBR include improvement in knowledge aggregation and feature extraction for case representation, efficient indexing and retrieval architectures as well as assisting with case adaptation.

In this first edition of the ICCBR Workshop on Case-Based Reasoning and Deep Learning, 3 papers have been accepted for presentation from researchers from UK and Norway. The first contribution uses Siamese Neural Networks to facilitate learning similarity knowledge for reasoning with time series data. The second contribution describes using Deep Convolutional Neural Networks (CNNs) to learn feature representations from accelerometer data for kNN-based human activity recognition. The third contribution presents the use of Deep Learning to predict favourable operating windows for ships, given weather conditions. This information is then used within a CBR system for planning operations in aquaculture installations. The submissions collectively demonstrate useful opportunities where Deep Learning has been leveraged within CBR systems with promising results.

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Program Chairs  
Case-Based Reasoning and Deep Learning Workshop, 2017

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