

# EPSRC CDT in Distributed Algorithms

## PhD Project: Learning Transparent Models from Data-driven Algorithms to Enhance Streaming Data Analysis

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### Project Description

The focus of the project is to enhance algorithms for streaming data. In a world that is becoming more and more data orientated, vast amounts of data arrive in continuous streams. Prior knowledge about phenomena that give rise to this data is desirable, as this can be used to train algorithms to more effectively process future data in real time. Currently, neural network algorithms can be trained on previous data to process incoming data streams, but it is a challenge to exploit prior knowledge in the context of these. Other algorithms such as particle filters exist to utilise transparent statistical models, however these require manual tweaks of model parameters. This project aims to synthesise these two approaches, in order to enable particle filters to operate in conjunction with the algorithms used to train neural networks, thus exploring the potential to enhance the particle filter in the context of learning transparent models, to be applied to streaming data.

Go to the [EPSRC CDT In Distributed Algorithms](#) website.