SPEAKER:

Dr. Alex Freitas

University of Kent

DATE:

Wednesday, the 2nd of March, 2011

TIME:

15:15 - 16:15

LOCATION:

Heriot-Watt University, Earl Mountbatten Building; room 3.02

TITLE:

Automating the design of data mining algorithms with genetic programming

ABSTRACT:

Although there are already many types of data mining algorithms available in the literature, it is still difficult for users to choose the best possible data mining algorithm for their particular data mining problem. In addition, data mining algorithms have been manually designed; therefore they incorporate human biases and preferences. In this talk we propose a new approach to the design of data mining algorithms. Instead of relying on the slow and ad hoc process of manual algorithm design, we propose systematically automating the design of data mining algorithms with an evolutionary computation approach. More precisely, we propose a genetic programming system (a type of evolutionary computation method that evolves computer

programs) to automate the design of rule induction algorithms, a type of classification method that discovers a set of classification rules from data. We will described the proposed system and show some computational results evaluating its effectiveness.