YCCSA Seminar Series
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An interdisciplinary seminar series hosted by the York Centre for Complex System Analysis aimed at researchers from all disciplines

Versatility of the use of Evolutionary Strategies in search and classification: from healthcare to green areas

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Computer Science, CSE/082&083 at 13:30

Abstract:

Evolutionary Algorithms (EA) is a stochastic metaheuristic that has been extensively used due to its capability to successfully deal with complex problems in very distinctive domains. From its multi objective variants to the capability of working in uncertain and dynamical environments, EA can be aimed at classifying examples into given set of categories, assessing the importance of different candidate features or can be focused on localising the best areas of the search space of a determined problem.

In this talk I will present the methods I developed in the field of urban planning to (i) optimise the placement of a certain type of facility, in this case green areas, to meet a defined set of goals over a period of time, (ii) how I dealt with the uncertainty inherent of dealing with future necessities. Afterwards, and using similar techniques I will change the area of applicability to the healthcare and I will discuss (iii) the use the EA techniques to construct classifiers for Parkinson's disease using a multi-objective strategy and polynomial regression techniques with the final objective of finding new biomarkers.

The seminar includes a refreshment break

Ron Cooke Hub is on Heslington East Campus – accessible by free bus services
Nos. 66 and 44 running at frequent intervals from Heslington West.
The YCCSA Seminar room is on the second floor