

ECM3412 Nature-Inspired Computation

Assignment TWO: Design a Talk on AIS and Their Applications

Handout: 21st November 2008 Handin: 9th December 2008 Back to you: w\b 12th January 2009 Worth: 10% of the module

What you will do in this assignment is read two papers about a new nature-inspired algorithm, Artificial Immune Systems, and then write 10—12 slides and associated notes in bullet-point form for a talk that describes the research in those papers.

Imagine you are working for Computer Network Consultants Plc as a Programmer, and you want to convince the higher management that they should invest in Artificial Immune Systems (AIS) Research. In response to your pestering, they have asked you for a technical talk, where they expect 10—12 slides, and an associated handout (with 2—5 bullet points per slide, indicating the key points you want them to get from that slide during the talk).

You decide to proceed as follows – obtain two papers, each concerning a different potential application of AIS, try to digest these papers and give a talk to the following general specification:

- Roughly 20% of the talk is a basic introduction to AIS and what they are likely to be good for.
- Roughly 60% of the talk is about the work described in the papers, in each case clarifying the problem, its importance, and how an AIS can be used to address this problem.
- The remainder is about other possible applications that you can find or think of, taking some care to rank-order these applications in terms of their feasibility and fruitfulness.

One paper has been selected for you and is shown on the ECM3412 Study Resources page as AIS1.pdf. It is a typical example of a current application-oriented research paper in the field. You will need to find **at least one further paper** which uses AIS for a **different application**.

Make sure your slides use proper referencing, either as footnotes or as a separate slide at the end of the presentation.

What to hand in

A PowerPoint / OpenOffice Impress / PDF (*if you want to use a different format check with me first*) presentation via the **submit** system in the folder **ECM3412 – CA2 Presentation**.

The file exca2.ppt from the ECM3412 Learning Resources page is an example of the hand-in format (make sure you see the Notes Page view from the View menu in ppt).

Marks: I will play the role of a senior manager who will direct funds towards ACO research in the company. I'll set aside up to 100,000 pounds, and will essentially reward 15,000 according to the quality of the ACO introduction, 50,000 for the description of the applications, 20,000 for the 'other possible applications' bit, and 15,000 for general overall impression. You will get one mark for each 1000 pounds awarded.
