



Bridging Argumentation and Computer Science - Part Two
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Argumentation Technology

Thursday, April 1, 2010
USI Lugano (room to be confirmed)

Introduction

This event forms the second part of the *Bridging Argumentation & Computer Science* course, the first part of which was delivered by Prof. Walton in December 2009. The session on April 1 does not make any assumptions about what else you have studied. Our goal is to look at current and emerging argumentation technologies, to look at their strengths and weaknesses, and to assess their future potential. After the course, you will have developed both a theoretical understanding of different types of argumentation technology (which will allow you to clearly explain the challenges and confidently discuss the benefits of the work) as well as practical experience with various types of technology (which will allow you to expertly use tools such as Araucaria and OVA).

Programme

0900 Welcome & Introductions *We start with some introductory discussions which assess the types of technology we currently use to support our argumentation practice. There are undoubtedly more than we might expect.*

0930 Lecture: Argumentation Technology in Analysis *The first lecture session introduces a number of tools that support argument analysis of different sorts. We examine how argumentation theoretic concerns such as argumentation schemes and enthymematic argumentation are handled. We also touch upon more theoretical issues such as how different approaches to analysis (e.g. Toulminian vs. Wigmorean) are reflected in software tools, and how software can support corpus based research.*

1030 Lab: Analysis *The lab session provides an opportunity for hands-on experience with a number of the analytical tools introduced in the lecture.*

1200 Lunch

1300 Lecture: Research Frontiers – Building the Argument Web *The second lecture explores some aspects of the current research frontiers in argumentation and artificial intelligence, with a particular focus on representational issues and the Argument Interchange Format. These aspects lay a foundation for the construction of the world wide argument web, and the lecture will explore a number of aspects of this emerging infrastructure and the software systems which contribute to it.*

1400 Seminar: Research Frontiers – Using the Argument Web *The programme closes with a seminar session discussing in detail the strengths and weaknesses of the argument web and its immediate prospects.*

Preparation

In advance of the lecture, lab and seminar sessions, students are requested to do some preparatory reading and online exploration. To help planning, the total time required for all this preparation is roughly eight hours.

For the morning sessions, students will be expected to have read [1] on the details of Araucaria, and [2] on the history of diagrammatic work. These are both relatively light reads. In addition, students will also be expected to have downloaded Araucaria from [3] to their laptops, and to have familiarised themselves with [4] and [5].

For the afternoon sessions, students will be expected to have read [6], and to have at least skimmed [7] (this latter paper is heavily mathematical: students should read enough to get a feel for what the paper is trying to achieve, rather than spending a large amount of time understanding the details of the formal presentation). In addition, students should have familiarised themselves with at least [8], [9] and [10], and should seek out further online tools for argumentation.

References

- [1]
Reed, C.A. & Rowe, G.W.A (2004) "Araucaria: Software for Argument Analysis, Diagramming and Representation", *International Journal of AI Tools*, 13 (4), pp961-980.
- [2]
Reed, C., Walton, D. & Macagno, F. (2007) "Argument diagramming in logic, law and artificial intelligence", *Knowledge Engineering Review*, 22 (1), pp87-109.
- [3]
<http://araucaria.computing.dundee.ac.uk>
- [4]
<http://ova.computing.dundee.ac.uk>
- [5]
<http://argdb.computing.dundee.ac.uk>
- [6]
Reed, C. & Wells, S. (2007) "Dialogical Argument as an Interface to Complex Debates", *IEEE Intelligent Systems*, 22 (6), pp60-65.
- [7]
Rahwan, I., Zablith, F. & Reed, C. (2007) "Laying the Foundations for a World Wide Argument Web", *Artificial Intelligence*, 171, pp897-921.
- [8]
<http://cohere.open.ac.uk>
- [9]
<http://debategraph.org>
- [10]
<http://www.amap.org.uk>

All papers are downloadable from
<http://arg.dundee.ac.uk/people/chris/publications/showbyyear.php>