Assignment 1 – literature review

The assignment

Write a literature review on a topic of your own choice (suggestions follow). The work should be done individually.

The review should contain at least 20 references, and be at most 3 pages long (including references). It should contain a ~1 page overview in which you refer to the papers and briefly explain why they are important (Ask yourself the question: why did you include *these* papers in the review?)
Also answer the following questions in your review: Who appear to be the important players in the field, what are the hot topics in the field and is your chosen field an active field? Give arguments for these conclusions.
Refer with name and year. Use the style specified below (a slightly more detailed version of APA 6th). It is recommended to use a reference management tool. Make sure that you include all detail. Don't just trust google to give you everything at once!
Include (at least) books, journal articles and book sections in your review.

Note that a literature review is *not* an introduction to the topic. It should be a guide for a reader who is already somewhat familiar with the basics of the topic on *what* to read and *why*. Russell and Norvig's (2003) introduction to artificial intelligence contains (very brief) examples at the end of most chapters.

Deadline

October, 16 midnight
For every day late, one point will be deducted.
Hand it in as pdf by email to bart@ai.vub.ac.be, putting MWO1 in the subject. Put your name in the filename (e.g. johnSMITHMWO1.pdf) and don't forget to put your name and student number in your assignment.

Reference

Russell, Stuart & Norvig, Peter (2003) *Artificial Intelligence: A Modern Approach (second edition)*, London: Pearson Education Ltd.

Suggested topics

Choose a topic on which you would like to write your thesis. This saves work and makes the exercise more interesting.

The MSc thesis suggestions of the AI-lab (ai.vub.ac.be/thesis)

Multi-Agent Learning Case Study in International Logistics
Grammatical error classification and correction
Learning the building blocks of speech
Emergent Hyper-adaptive Communication Systems
Learning large-size grammars from data
Markov Chain Monte Carlo reconstruction of Neighbor Nets
Measuring structure of speech and animal signals
Learning from human demonstration in Super Mario

Reinforcement Learning in Linear-Quadratic Differential Games
An Android framework for Distributed Reinforcement Learning
Learning Trajectory Control for Autonomous Vehicles
Using Recurrent Neural Networks for Mobile Robot Navigation
Learning Control for Quadrotor Helicopters
Optimization Algorithm Portfolios
Multi-Agent Transfer Learning
Population based Reinforcement Learning
Adaptive Heuristics
Computational Biology: Investigations into protein structure and function
Computational Biology: Evolutionary Dynamics of Advanced Strategies
Computational Biology: Stochastic dynamics of chronic myeloid leukemia
Computational Biology: The environment's impact on cooperativity between microorganisms
Machine Learning: Coalition-based Naive Bayesian Classification
Machine Learning for Wireless Sensor Networks
Heuristic Policies for Reinforcement Learning
Multi-Objective Reinforcement Learning for Real-World Applications
Dynamic scheduling using real-time social data

Below follows a list of topics from the call for papers of the AAAI (Association for the Advancement of Artificial Intelligence) conference. These topics are too general for this exercise, so choose a specialization within each of these topics.
For example: Multiagent systems – ant systems, Robotics – robot navigation, Evolutionary computation – multi-objective GA's
For inspiration, you can also look at a call for papers of a conference on your favorite topic.

Topics of the AAAI 2010 conference call for papers

Agents
Cognitive modeling and human interaction
Commonsense reasoning
Constraint satisfaction and optimization
Evolutionary computation
Game playing and interactive entertainment
Information integration and extraction
Knowledge acquisition and ontologies
Knowledge representation and reasoning
Machine learning and data mining
Model-based systems
Multiagent systems
Natural language processing
Planning and scheduling
Probabilistic reasoning
Robotics
Search

Style Examples

Journal article

de Boer, B. (2009). Acoustic analysis of primate air sacs and their effect on vocalization. *Journal of the Acoustical Society of America, 126*(6), 3329–3343.

Book chapter

de Boer, B. (2009). Why women speak better than men (and its significance for evolution). In R. Botha & C. Knight (Eds.), *The prehistory of language* (pp. 255–265). Oxford: Oxford University Press.

Book

de Boer, B. (2001). *The origins of vowel systems*. Oxford: Oxford University Press.

Conference paper

Kootstra, Gert, Nederveen, Arco & de Boer, Bart (2008) Paying Attention to Symmetry. In: M. Everingham, C. J. Needham and R. Fraile (Eds.) *Proceedings of the British Machine Vision Conference (BMVC2008)*, September 1–4, 2008, Leeds, UK, pp. 1115–1125

Website

de Boer, B. (2013) *Bart de Boer's publications*, [web site] http://uvafon.hum.uva.nl/bart/publications.html, retrieved on September 17,2013

Software

Boersma, P. & Weenink, D. (2012) *PRAAT, doing phonetics by computer* [computer program] version 5.3.16 http://www.praat.org, retrieved on May 23 2012

If there are more than 8 authors, you can mention the first 8 authors and use et al. in your bibliography.

Checklist

- Do you have the required number of references (>20)?
- Did you answer the questions stated in the assignment?
- Are there references to all different types of sources?
- Are the references of sufficient quality? A random list of Google scholar hits is not acceptable.
- Are all the references complete? Pay special attention to page numbers and editors of conference proceedings!
- Are the references formatted consistently? Be careful with automatically generated references!
- Is the text an introduction to the literature (rather than just an introduction to the subject)?