David Vadas

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Employment History

Susquehanna **Sep 2011 – Present**
Creating statistical models for trading strategies, via machine learning on very large data sets. This involves generating key indicators from market data and significant analysis in a backtesting framework.

University of Sydney and Capital Markets CRC **Nov 2010 – Aug 2011**
Building systems for analysing newspaper text as part of an industry partnership with Fairfax Digital. Other duties included lecturing and supervising students.

Optiver **Apr 2008 – Nov 2010**
Development work on multiple components of a high-frequency trading system. This includes writing software for monitoring speed and success, interpreting market protocols and an auto-trading tool.

National Computer Science School, School of I.T. **Jan 2005 and 2006**
Tutoring Python programming to high school students.

Academic Staff, School of I.T. **2003 – 2005**
Tutoring a number of classes, with students from 1^{st} and 2^{nd} Year, through to honours and masters students.

Education

The University of Sydney

Doctorate of Philosophy in Science **Mar 2005 – Apr 2008**
Noun Phrase Structure for Statistical Parsing
Greater annotation and analysis of noun phrase structure allows for better performance in parsing and other Natural Language Processing systems.

Bachelor of Information Technology (Honours) **Mar 2001 – Nov 2004**
First Class Honours in Computer Science – Grade: 88/100 (WAM: 80%)
Majors in Software Development, Principles of Computer Science, and Networks and Systems.

Technical Skills

- Proficient with C++ and C, including use of Boost libraries.
- Expert Python programming, including knowledge of Django, numpy and scipy.
- Considerable practice at using Linux utilities, e.g. awk, to speed prototyping work.
- Able to be productive with many development tools: vim, Visual Studio, git, Subversion, Perforce.
- Expertise in:
  - machine learning with large datasets;
  - high frequency trading;
  - writing low-level and highly optimised code;
  - and practical tasks from the natural language processing field.

Publications

David Vadas and James R. Curran
Parsing Noun Phrases in the Penn Treebank. In Computational Linguistics, 37(4), pages 753–809. December 2011.

David Vadas and James R. Curran
Parsing Noun Phrase Structure with CCG. In Proceedings of the 46th Annual Meeting of the Association of Computational Linguistics: Human Language Technologies (ACL-08: HLT). Columbus, OH, USA, June 15–20 2008.

David Vadas and James R. Curran
Parsing Internal Noun Phrase Structure with Collins' Models. In Proceedings of the Australasian Language Technology Workshop (ALTW-07), pages 109–116. Melbourne, Australia, December 10–11 2007.

David Vadas and James R. Curran
Large-Scale Supervised Models for Noun Phrase Bracketing. In Proceedings of the 10th Conference of the Pacific Association for Computational Linguistics (PACLING-2007), pages 104–112. Melbourne, Australia, September 19–21 2007.

David Vadas and James R. Curran
Adding Noun Phrase Structure to the Penn Treebank. In Proceedings of the 45th Annual Meeting of the Association for Computational Linguistics (ACL-07), pages 240–247. Prague, Czech Republic, June 23–30 2007.

James R. Curran, Stephen Clark, and **David Vadas**
Multi-Tagging for Lexicalized-Grammar Parsing. In Proceedings of the Joint Conference of the International Committee on Computational Linguistics and the Association for Computational Linguistics (COLING/ACL-06), pages 697–704. Sydney, Australia, July 17–21 2006.

David Vadas and James R. Curran
Tagging Unknown Words with Raw Text Features. In Proceedings of the Australasian Language Technology Workshop (ALTW-05), pages 32–39. Sydney, Australia, December 10–11 2005.

David Vadas and James R. Curran
Programming With Unrestricted Natural Language. In Proceedings of the Australasian Language Technology Workshop (ALTW-05), pages 191–199. Sydney, Australia, December 10–11 2005.