David Vadas

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Employment History

Susquehanna **Sep 2011 – Present**

- Built a brand new trading strategy using machine learning techniques. Performed analysis and optimisation using a large-scale cluster, achieving profitability in a backtest environment.
- Implemented core parts of the real-time trading and backtesting system.
- Wrote networking code for market connectivity.

University of Sydney and Capital Markets CRC **Nov 2010 – Aug 2011**

- Worked on automatically generating content pages from newspaper articles.
- Designed and implemented the database linking articles to people and places. Facilitated its use in back-end processing and for front-end display.
- Lectured a Natural Language Processing course and supervised students.

Optiver **Apr 2008 – Nov 2010**

- Designed and built trade analysis tool for measuring speed and success.
- Managed a data capture system distributed across multiple geographic locations that generated huge volumes of data.
- Wrote code for a specialised high-frequency trading strategy.

University of Sydney **2003 – 2006**

- Tutoring for many programming courses, from high school students through to honours and masters students.

Education

The University of Sydney
Doctorate of Philosophy in Science **Mar 2005 – Apr 2008**
Thesis: *Statistical Parsing of Noun Phrase Structure*
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

- Languages: C++ (expert), Python (expert), C (proficient).
- Extensive practical experience working with large-scale data, including applying machine learning techniques, analysis with numpy and scipy, and writing code to run on distributed systems.
- Able to design database schemas and write complex SQL queries.
- Domain-specific experience in high frequency trading and natural language processing.
- Excellent communication skills from lecturing, writing technical papers and working with teammates.

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.