
Stephen Merity

Harvard University (2013 – 2014)

Master of Science in Computational Science and Engineering

University of Sydney (2008 – 2011)

Bachelor of Information Technology (First Class Honours + University Medal)

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EXPERIENCE

MetaMind (acquired by Salesforce), Palo Alto

Senior Research Scientist - Deep Learning

Oct 2015 – Present

Performing and publishing novel research into machine learning models in the field of deep learning. Experience implementing models from cutting edge research, such as memory networks, neural attention mechanisms, and pointer networks, using no supporting code, only academic papers as reference.

Common Crawl, San Francisco

Principal Engineer

July 2014 – Oct 2015

As the only full time engineer, developed and maintained code and cluster infrastructure for running a monthly web crawl billions of pages in size using a modified Apache Nutch platform on Amazon Web Services. Each month involved processing and storing hundreds of terabytes of web archives onto Amazon S3 using Hadoop. The role also included performing large scale experiments on the resulting corpora and presenting the results at conferences across the globe to increase interest in open data.

Grok Learning, Sydney

Full Stack Engineer (First Employee)

Jan 2013 – Aug 2013

Developed backend code and infrastructure for the code execution and evaluation system used by over 50,000 high school students to learn computer science and programming.

Freelancer.com, Sydney

Team Lead - Data Analytics and Interaction Mechanics

Dec 2010 – Apr 2012

Application of advanced data mining methods, statistical testing and machine learning techniques to increase the overall customer satisfaction and revenue on *Freelancer.com*.

Google Sydney

Internship - Engineer at Google App Engine

Dec 2009 – Mar 2010

Helped triage and fix multiple bugs in live production code and implemented a feature to enable rapid querying of existing user data. Work was performed in three languages (Java, C++ and Python) with code reviews and unit tests required for each commit.

PUBLICATIONS

- [Paper] *Pointer Sentinel Mixture Models* 2016
Stephen Merity, Caiming Xiong, James Bradbury, and Richard Socher
- [Paper] *Dynamic Memory Networks for Visual and Textual Question Answering* 2016
Caiming Xiong*, **Stephen Merity***, and Richard Socher (* equal contribution)
- [Paper] *Frontier Pruning for Shift-Reduce CCG Parsing* 2011
Stephen Merity and James R. Curran
Proceedings of the Australasian Language Technology Association Workshop 2011
- [Thesis] *Integrated Tagging and Pruning via Shift-Reduce CCG Parsing* 2011
Stephen Merity
Honours Thesis, The University of Sydney, Sydney, Australia
- [Paper] *Accurate Argumentative Zoning with Maximum Entropy models* 2009
Stephen Merity, Tara Murphy and James R. Curran
Proceedings of the 2009 Workshop on Text and Citation Analysis for Scholarly Digital Libraries, ACL-IJCNLP 2009, pages 19–26

ARTICLES

- It's ML, not magic: machine learning can be prejudiced* 2016
- It's ML, not magic: simple questions you should ask to help reduce AI hype* 2016
- Explaining and illustrating orthogonal initialization for recurrent neural networks* 2016
- In deep learning, architecture engineering is the new feature engineering* 2016
- Why small files are a curse for big datasets* 2015
- How Google Sparsehash achieves two bits of overhead per entry using sparsetable* 2015
- Measuring the impact of Google Analytics* 2013

TECHNICAL SKILLS

- Expertise in the field of machine learning, including the use of deep learning methods such as recurrent neural networks for natural language processing and convolutional neural networks for computer vision tasks.
- Experience in applying recent deep learning advances, such as neural attention mechanisms, memory networks, and pointer networks, to improve the capabilities of models on various machine learning tasks.
- Experience implementing novel models in high and low level frameworks (Keras / TensorFlow / Chainer).
- Natively fluent in Python and on the command line. Conversationally fluent in C, Java, Go, and C++.
- [Master level contributor on Kaggle](#) (highest position: 808th)