Zachary Forman

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Work Experience

- **Language Confidence**
  Software Engineering Intern *July 2016 – August 2016*
  - Developed supervised and unsupervised neural networks for classification and regression of audio.
- **Google Sydney** **Chrome**
  Software Engineering Intern *November 2015 – February 2016*
  - Significantly increased the determinism of Chromium builds.
  - Designed and implemented a tool for investigating Chromium builds.
- **Google Sydney** **Drive**
  Software Engineering Intern *November 2014 – February 2015*
  - Designed and implemented an Android application.
  - Adapted a pretrained neural network for image recognition to a new task, achieving 94% accuracy.
- **School of Computer Science** **Adelaide University**
  Casual Teaching *August 2014 – present*
  - Taught first year students fundamentals of CS and programming in tutorials, practicals and workshops.
- **AutoID Labs** **Adelaide**
  Summer Intern *December 2013 – March 2014*
  - Built and helped design a C++ stream processor that interfaced with pre-existing middleware and machine learning algorithms to generate a stream of predictions.
  - Built a visual C♯ application to interface with RFID readers and provide a stream of tag reports.

Leadership

- **President of Computer Science Club**
  Adelaide University *November 2013 – November 2015*
  - Encouraged a culture of excellence and diversity within the club, contributing to a significant number of club members (8+) getting internships at leading tech companies, including Google and Microsoft.

Projects

- Intelligent Codebase Search (in conjunction with Maptek)
  - Implemented a fast mmap'd trie that reduced prefix search latency from order of 10^{-1}s using sqlite's search to order of 10^{-6} seconds.
  - Implemented an approximation of a C++ parser in C++ to improve runtimes to 5s from 24h using libclang's python bindings.
  - Used spaCy to implement natural language processing for task extraction.

Core Technical Skills

Language	Years Experience	Technology	Years Experience
C++	5	SVN	5
C	4	LaTeX	4
Bash	4	Git	3
Java	3	Android	0.5

Github Projects github.com/ZacharyForman

- Binary Matcher
  - Tool for analyzing binaries, and potentially doing clever binary diffing.
  - Learned about ELF file format and how binaries are run on Linux.
- net
  - C++ wrapper of BSD sockets, and several other utilities for code that interacts with the Internet
  - Learned more about BSD sockets, and experimented with API design.
- cpu
  - Instruction architecture simulator for the DLX architecture.
  - Improved my C programming ability and consolidated my knowledge of DLX.
- doc2vec
  - Used gensim to experiment with the doc2vec algorithm.

Education

- **Adelaide University**
  Bachelor of Engineering (Honours) (Software Engineering) *2013 – Present*
  Expected Graduation: November 2016
  - GPA: 6.6/7.0
  - Recipient of Adelaide University Undergraduate Scholarship for outstanding academic merit.

Selected key courses

- Artificial Intelligence (2014 s1) High Distinction
- Advanced Algorithms (2015 s1) Distinction
- Computer Vision (2015 s1) Distinction
- Evolutionary Computation (2015 s2) High Distinction
- Introduction to Statistical Machine Learning (2015 s2) High Distinction
- Distributed Databases and Data Mining (2016 s1) High Distinction
- Mining Big Data (2016 s2) High Distinction

Miscellaneous

- Competitions
  - Google Code Jam 2013-2016 (Qualified)
  - ICPC South Pacific Regionals 2016
  - ICPC South Pacific Divsionals 2013-2016 (n^{th}, 3^{rd}, 2^{nd}, 1^{st} on site)