# Aaron Craig's CV

CONTACT INFO

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SKILLS

**Programming Languages**: Java, C, Python, Haskell, Prolog, SQL
**Modelling Languages**: Alloy, UML, LTSA
**Markup Languages**: Latex, Markdown, JSON, XML
**Libraries & Frameworks**: JUnit, pandas, matplotlib, numpy, curses, OpenGL, XStream, Berkeley Socket API, Swing, Unity.
**Protocols**: HTTP, DNS.

JOB HISTORY

**Victoria University**, Wellington
*Research Assistant*     Oct 2015 – Mar 2016
- Contribute to the Wyvern interpreter: `github.com/wyvernlang/wyvern`
- Design a logic for specifying and verifying architectural constraints.
- My supervisor was *Alex Potanin*.

**New Zealand Registry Services**, Wellington
*Research Intern*     Oct 2014 – Mar 2015
- Analysis and summary of DNS data using pandas, matplotlib.
- Detection and classification of botnet domains using clustering techniques.
- Helped gather and verify data used to generate a map of the NZ internet's routing topology.

**Victoria University**, Wellington
*Sessional Assistant & Tutor*     Mar 2014 – Oct 2015
- Marking tests and assignments; invigilating.
- Running tutorials, labs, and helpdesks.
- Classes tutored: Intro to Computer Science; Engineering Modelling & Design; Data Structures & Algorithms II; Formal Foundations of Programming.

**Converga Ltd.**, Petone
*Business Processing Clerk*     Nov 2013 – Mar 2014
- Data entry and verification.
- Sorting files by hand. (I did this using radix sort)

**Target Furniture**, Porirua
*Temp, Storeperson*     Nov 2010 – May 2013
- Furniture removal, delivery, assembly, and repair.
- Managing inventory.
- Driving forklift.
- Training temps.
- Assisting and greeting customers.

INTERESTS & PROJECTS

**Natural & Programming Languages**. I'm interested in the structure of languages. This includes: compilers, programming language design, and natural language processing. I have made several corpora for Māori and NZ English. I have my own SAT solver that I've been tinkering with. At NZRS I did research into detecting botnets by classifying domain names. As part of that I gave a presentation at the 2015 New Zealand Internet Research Forum.

**Visualisations.** At NZRS I helped verify data used to generate a map of the New Zealand internet. I've programmed several interactive visualisations for algorithms (A*, Kruskal's Knight's Tour,

KNN) and for cellular automata.

**Computer Science Education.** My work in computer science pedagogy keeps me sharp in a diverse number of areas. I am writing an introductory textbook of computer science, partly motivated by my experience as a student and tutor.

**Game Development**. Each year I attend Pixeljam, a Wellington-based gamejam. We've several flavours of game, such as a 2d lane-runner, a 2d platformer, and a 3d horror game. Recently I started working on a 2d game engine in Java, built atop OpenGL.

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| EDUCATION | **Victoria University of Wellington**, New Zealand | |
| | • STAR Programme | 2011 |
| | • BA Linguistics & Philosophy | 2012 |
| | • BSc Computer Science & Mathematics | 2013 - Current |
| | **Tawa College**, New Zealand | |
| | • NCEA Level 3 (Merit endorsement). | 2011 |
| SCHOLARSHIPS & AWARDS | **Victoria University of Wellington** | |
| | • Victoria Achievers Scholarship | 2012 |
| | **NZQA** | |
| | • Outstanding English Scholarship | 2011 |
| | **Tawa College** | |
| | • Katherine Mansfield Award (English) | 2011 |
| | • Leanne Dixon Cup (History) | 2011 |
| LANGUAGES | English | |
| | Māori (Elementary) | |
| ABOUT ME | I was born in Porirua and live in Wellington. I like creative writing and reading history, philosophy, and literature. For two years I boxed as an amateur but nowadays just like to watch. My tribe is Muaūpoko, in Horowhenua. | |
| REFERENCES | Available upon request. | |