

# Colin Douch

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British Citizen currently working as an SRE at Cloudflare. Graduate in Network Engineering with strong knowledge of networking and associated protocols. Experience designing, building and maintaining highly available, large-scale services, on both Unix and Windows based systems. Proven ability to work on large programming projects in a team based environment, and to pick up new technologies quickly.

## Education

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### Academic Achievements.....

- **Victoria University of Wellington**  
*Bachelor of Engineering (Hons) majoring in Network Engineering - First Class*
- **Victoria University of Wellington**  
*Summer Research Scholarship*
- **Tawa College**  
*New Zealand Secondary School qualifications*  
NCEA Levels 1, 2 & 3 Achieved with Merit (Top 20% of cohort)  
New Zealand Scholarship in Statistics (Top 2% of cohort)

## Previous Employment

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- **Cloudflare**  
*Systems Reliability Engineer* *June 2017 - Current*  
Led efforts to help fix, maintain, and improve the 150+ core and edge datacenters that make up the Cloudflare Edge Network. Worked on and led automation projects around products including CDN-JS, and the internal prometheus infrastructure. Worked with Engineering teams and built observability tooling from the ground up including Elasticsearch, Grafana, and Thanos.
- **Xero**  
*Site Reliability Engineer* *January 2016 - June 2017*  
Led efforts to migrate Xeros metrics monitoring infrastructure from DataDog to an in house Prometheus implementation. Formalised the incident management process, and created a ChatBot to help manage it. Worked with the reporting team at Xero as the sole SRE on reliability tasks.
- **Xero**  
*Automation Engineer Intern* *November 2015 - January 2016*  
Constructed automation in Ruby, particularly using Chef to automate the provision of infrastructure, in order to support the migration of Xeros production servers and associated infrastructure into AWS.
- **Victoria University of Wellington**  
*Research Assistant* *November 2013 - November 2015*  
Used Hadoop and Java to develop and implement several reinforcement learning algorithms, and the production of papers for publication
- **Catalyst IT**  
*December 2011 - January 2012*  
Used Java, Python and PHP to contribute to open source programs, including Kiritaki Koha (Android Access for Koha ILS) and Drupal

## Technical and Personal skills

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- **Programming Languages:** Fluent in C, C++, Java, Python, SQL, JavaScript, PHP and Bash. Working knowledge of x86 Assembly and C#.
- **Software Skills:** Experience with relational database softwares including MySQL, SQLite and PostgreSQL as well as experience with Cassandra and MongoDB. Excellent with most Observability tooling, including Prometheus, Datadog, Grafana, Logstash, and Elasticsearch.
- **Tool Skills:** Experience with AWS EC2, CloudFormation, Docker, Puppet and DataDog on my personal infrastructure. At work I deal with the whole suite of AWS technologies, Chef, DataDog, SumoLogic and Prometheus.
- **Standards:** Strong understanding of networking and associated protocols including TCP, UDP and ICMP, as well as knowledge in IPV6

## Notable Projects.....

- **Research Project:** *'Using Learning Classifier Systems to Learn Stochastic Decision Policies'* As part of my work as a research assistant I helped design and implement a Machine Learning algorithm which utilises the "Natural Gradient" of a problem to better learn optimal solutions. I was responsibly for the implementation and testing of this algorithm, as well as aiding the modifications that were made as we better tuned the algorithm. This work ultimately culminated in a paper for publication and has been accepted by the IEEE Transactions on Evolutionary Computation
- **Project:** *'QInit'* A personal project of mine, QInit started out as a project to learn Rust and spiralled into a whole linux distribution. All components are written by me including a Shell, an Init System, and a Message Bus

## Interests and extra-curricular activity

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- I am a member of the Victoria University tramping club and enjoy going on trips in my free time
- Founding member of the Tawa College coffee club which we developed to 20 members in my final year
- Attendee and Volunteer at KiwiCon, New Zealands top Cyber Security conference