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Compiled on 13/10/2014.

## About me

- *University of Waterloo* undergraduate in Computer Science 4B term, exchange student at *Swiss Federal Institute of Technology (EPFL) at Lausanne*.
- Very driven and motivated with many hobbies (see my blogs at *blog.sunapi386.ca*). Passionate about crafting software, which I discovered from trying two previous majors: physics, business.
- Over eight years of experience using unix: Ubuntu, Arch Linux, OS X and unix utilities like grep, fdisk, etc.
- Experienced working in startup environments, with five terms at Velocity residence. Enjoys coding for fun. Attended *DEFCON 22*, *2600 Hope #9*, MHacks, HackMIT, PennApps, HackZurich 2014.
  - Twilio's Communication Award at *PennApps 2013*, University of Pennsylvania, with *Marmoset*.
  - Tamedia Digital Award at *HackZurich 2014*, ETH Zürich, with *.GIFMeIt*.

## Projects

- Project highlights from last term:
  - Multithreaded quicksort, token ring network simulation in ***uC++***, a dialect developed at University of Waterloo supporting concurrency.
  - Built a remote procedure call library in **C++** over TCP, for both the client and server side. Implemented the go-back-N reliable transmission protocol, over UDP using **Java**.
  - Created exploits in **C** using vulnerabilities such as buffer overflow and format strings. Implemented an intrusion detection system in ruby that parses output from tcpdump to detect spoofed packets, malicious hosts, and worms.
- Dotabuff-ripper: My personal project, a tool written in **Ruby** to aid the counter-hero picking in 5v5 dota games. A scraper collects about hero winrates from Dotabuff and inserts into a ***Neo4j* graph based database**. The tool then suggests a list of potential counter-picks.
- MIPS compiler using context-free parsing to generate **MIPS assembly** code. Also designed a simple pipelined CPU written in **Verilog**, supporting 8 instructions for computer architecture class. Theoretically this is sufficient to run my machine code produced by my MIPS compiler.

## Experience

- Software Engineer Intern *Shutterfly Inc.* at Redwood City, California (Silicon Valley)

Develop functional load tests for distributed services. Design and implemented a distributed key value storage service, using technology like **Jersey** RESTful Web Services framework and Apache **Cassandra**.

- Code Monkey at *Encircle Inc.* at Kitchener, Ontario

A startup in the *Velocity Garage*, working on **android**, **coffee**, **python**. Worked on feature implentations in web such as and android app like sticky headers.

- Undergrad Research Assistant at University of Waterloo

Developed process for acquiring input from a NI myDAQ, a low-cost data acquisition device, and data analysis using **Matlab**.

- Software Tools Developer Intern at BlackBerry Ltd. at Ottawa, Ontario

Built additional features to the GitLab open source project using **Ruby on Rails**. Developed a testing framework for testing website user interfaces, using the **Selenium** framework based in Java.

- Physics Teaching Assistant at *Wilfrid Laurier University* at Waterloo

Developed a spectrometer reading program in python, using the **pySerial** library, and automate queries over serial port - previously you had to punch numbers on the machine.