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About me

- University of Waterloo Computer Science student in 4B term, with one exchange term at École polytechnique fédérale de Lausanne.
- Self motivating with many hobbies, blog at *blog.sunapi386.ca*. Very passionate about crafting software; as I found out from two previous majors - physics, business.
- Over six years of experience using *nix: ubuntu, archlinux, osx and tools.
- Experienced working in startup environments with five terms at *VeloCity residence*
- Enjoys hackathons. Attended MHacks, HackMIT, PennApps. Won Twilio's "communication prize" at PennApps 2013 with *Cleverbot*, which was to get Cleverbot to respond to your facebook messages. Demo: *http://youtu.be/-tEexMRq7fY*

Interesting Projects

- Project highlights from last term:
  - Multithreaded quicksort, token ring network simulation using coroutines in μC++, a concurrent C++ dialect.
  - Built a remote procedure call library in C++ over TCP, for both the client and server side. Implemented the go-back-N, a 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 db, which handles graph queries. The tool then suggests a list of potential counter-picks. The front-end in rails has not been completed.
- MIPS compiler using context-free parsing to generate machine code. Also designed a simple pipelined CPU 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 Engineering Intern Shutterfly Inc. in Redwood City (July 2014 - Aug 2014)

Develop functional load tests for distributed services. Speed up backend services like image uploading by making them scalable.

- Amateur Keyboard Masher at Encircle Inc. in Kitchener (May 2014 - June 2014)

A VeloCity Garage startup, touching android, coffee, python. Worked on feature implentations in web such as and android app like sticky headers.

- Undergrad Research Assistant at University of Waterloo (Jan. 2014 - Apr. 2014)

Acquiring input from a *NI myDAQ*, a low-cost data acquisition device (DAQ).

- Software Tools Developer Coop at BlackBerry Ltd. in Ottawa (Sept. 2013 - Dec. 2013)

Contribute to internal git repository management system, building features upon the GitLab project using rails. Developed a testing framework for testing website user interfaces, using the Selenium framework based in Java.

- Physics Teaching Assistant at Wilfrid Laurier University in Waterloo (Sept. 2011 - Apr. 2012)

Developed a spectrometer reading program in python, using the pySerial API, and automate queries over serial port - previously you had to enter wavelength you want to sample by hand.