

RYAN BRACKENBURY

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PROFILE

Background in inter-networking, operating systems, and computer architecture. 5+ years practical experience administrating Linux and BSD systems. Comfortable with Iptables, Cisco IOS, Ethernet switches and wiring. Equally eager to pick up a keyboard, a recovery CD, or a soldering iron.

TECHNICAL SKILLS

Operating systems	Linux (Ubuntu, CentOS), NetBSD, OS X
OS Tools	Linux containers, LVM, RAID + DRBD, rpm/dpkg/pkgsrc
Network Tools	Cisco IOS, PF, Iptables, tcpdump, wireshark, ifconfig/ip
Programming Languages	Bash, C/C++, Python, SQL, Verilog HDL
Version Control	Git (Gerrit, Bitbucket), Perforce, SVN
Build + Continuous Integration	Jenkins, Make, Autoconf
Web	Apache, cPanel/WHM, WordPress

EDUCATION

UNIVERSITY OF TORONTO – Toronto, ON

- BACHELOR OF APPLIED SCIENCES (BASC) - Computer Engineering Sept. 2012 – Present
Expected Graduation Date: June, 2017

RELEVANT WORK AND VOLUNTEER EXPERIENCE

SYSTEMS ADMINISTRATOR, University of Toronto Engineering Society Apr. 2016 – Present

- Implemented a border firewall, with successful mitigation of DOS attacks at various points throughout the year, and reducing malicious login attempts from >200 to 1-2 per day
- Designed replacement server cluster to provide hardware redundancy, on a tight student-government budget
- Used NIC-teaming to provide a high-speed networking with inexpensive consumer hardware
- Migrated hosts to replicated Linux containers, allowing live migration between physical hosts
- Reduced downtime from multiple hour-long interruptions each exam season to three-9's uptime

SOFTWARE DEVELOPER IN TEST INTERN, Symantec Corporation Apr. 2015 – Aug. 2016

- Co-designed Python-based automated testing and deployment framework for “Web Security.cloud” proxy, resulting in automation of >75% of ~600 testcases within a year.
- Authored, reviewed automated test cases and unit tests to validate product and framework operation
- Setup jenkins and git for continuous deployment and testing of new product releases, reducing test cycle time significantly
- Created an automation shell, allowing rapid testcase prototyping and fast manual testing
- Documented framework components and co-authored training reference for new developers
- Developed and presented training material on framework usage and on git workflow

WEBMASTER, The Toike Oike Sept. 2014 – Apr. 2015

- Migrated website and content to a new system, resolving security exploits of the previous, outdated software
- Designed and developed new web layout; automated security and software updates

RELEVANT ENGINEERING PROJECTS

SOFTWARE DEVELOPMENT, Screen Brightness Daemon

[Source Code: <https://github.com/rbracken/delux>]

- Designed a program to adjust a laptop’s screen brightness according to ambient light readings
- Implemented an algorithm which mimics Apple MacBooks’ auto-dimming feature
- Running the daemon resulted in ~0.25W / 5% reduction in idle watts on Acer Chromebooks due to reduced backlight power consumption
- Used Autoconf and Make for code portability and consistency, enabling compilation across mainstream Linux distributions with varying sensor hardware

AUDIO CIRCUIT DESIGN, Vacuum Tube Stereo System

- Designed audio preamp and power stages from component data sheets, along with high-voltage power supply suitable for audio use
- Followed electrical best practices for circuit isolation, grounding, and safety of design

DATABASE STORAGE SERVER DESIGN, University of Toronto

- Designed a relational database structure, based upon binary search trees, improving search times from $O(n)$ to $O(n \log n)$
- Implemented a domain-specific shell and script interpreter to allow batch processing

References available upon request.