AMANDA CARBONARI

971-200-5134 | acarb95@gmail.com | acarbona

Education

MSc in Computer Science, University of British Columbia *09/05/16 - Current*

Thesis: Tolerating Faults in Disaggregated Datacenters

Expected: May 2018

BSc in Computer Science, Colorado State University *08/26/13 - 05/14/16*

Honors Thesis: Analyzing the Popularity of Music in the Million Song Dataset (MSD)

GPA: 3.884 (Discipline Honors Scholar, Dean's List Recipient, Cum Laude Distinction)

Research Experience

Graduated Access Control on Remote Devices *08/26/16 - Current*

Network, Systems, and Security Lab *University of British Columbia*

- Extends **OP-TEE** to allow data access control on remote devices by attaching policy to data and encrypting it (capsule).
- Intercepts capsule syscalls and performs operations in the Secure World trusted application.
- Prototyped in **C** using a **LeMaker HiKey** board with **ARM TrustZone** and Linux 4.9.

BlueBridge: A Distributed Shared Virtual Memory System *01/05/17 - Current*

Network, Systems, and Security Lab *University of British Columbia*

- Exposes a **distributed** global address space to applications by implementing virtual memory in the network.
- Hosts operate on local memory (the cache) and pages fault to remote memory. Implemented in **C** with raw sockets.
- Remote pointers are stored as **IPv6** addresses which contain a remote machine prefix with the memory address.

Work Experience

Masters Intern *06/01/16 - 08/25/16*

Pacific Northwest National Laboratory (National Security Internship Program) *Richland, WA*

- *Analysis in Motion:* Ported an image inpainting algorithm to a distributed GPU cluster using **OpenCL** and **C++**.
- *Cyber Intelligence Center:* Designed **Spark** scripts in **Scala** to streamline data ingest and provide summary statistics.

Software Engineering Intern *06/01/15 - 05/06/16*

LogRhythm *Boulder, CO*

- Implemented five automation test suites for Network Monitor utilizing **Python** and **bash** scripting.
- Optimized **multi-threaded C++** code to reduce CPU usage by ~2-5% per thread.

Design Automation Intern *06/01/14 - 08/22/14*

Intel Corporation *Fort Collins, CO*

- Developed **perl** and **bash** scripts to aggregate log errors per type and produce summary statistics.
- Received project team **recognition award** for merging tools to improve efficiency and usability.

Academic Projects

Distributed Assertions *Fall 2016*

CPSC 538B: Distributed Systems *University of British Columbia*

- Defined types of **distributed assertions** and developed a locally blocking time-based distributed assertion **Go library**.
- The asserts coordinate between all nodes to schedule an assertion time, ensuring a **consistent** system snapshot.

Distributed Content Harvesting using Thread Pools *Spring 2015*

CS 455: Distributed Systems *Colorado State University*

- Developed a **Java** web content harvester with configurable **thread pools** and recursion depths.
- Harvesters eliminated duplicate tasks, handed-off tasks, and produced graphical representations of web domain links.

Publications

HotNets'17 Amanda Carbonari and Ivan Beschasnikh. 2017. Tolerating Faults in Disaggregated Datacenters. In Proceedings of the 16th ACM Workshop on Hot Topics in Networks. HotNets-XVI.