

JONATHAN MORONEY

<https://github.com/darakian>

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EDUCATION

University of Hawaii, Manoa

B.S. in Mathematics

June 2012

B.A. in Economics

June 2013

M.S. in Computer Science

August 2016

Radboud University, Nijmegen

PhD in Digital Security

Halted due to funding

RELEVANT WORK EXPERIENCE

Radboud University

November 2016 - April 2018

PhD Candidate / Scientific Programmer

Nijmegen, NL

- Assisted in design and development of the Polymorphic encryption and Pseudonymization database.
- Project highlights: At rest encrypted data, patient control of access to medical records, distributed backend with multi-party encryption and communication.
- C++11 with rxcpp used for asynchronous IO and Qt for the user client.

RSA Security

August 2016 - October 2016

First Watch Intern

Remote

- Investigated attacks on RSA clients and profiled suspect organisations.
- Assisted in domain sinkholing and malware analysis.
- Developed a mongoDB companion database of virusTotal for internal use.
- Documented contributions and processes in the team wiki.

University of Hawaii SOEST

November 2008 - December 2014

Help Desk and Junior Systems Admin

Honolulu, HI

- General tech for ~3000 users.
- Managed accounts for ~3000 users.
- Replaced aging tape based backup system with linux based NAS solution.
- Managed ~100 servers while minimizing downtime.
- Assisted in total network upgrade to a 10Gb trunk, tree topology.
- Recovered data from failed drives and filesystems.

PROJECTS

Directory Differential hTool

Early 2018

Management Utility

Rust

- A tool to recursively traverse directories, hash files and inform the user of duplicates and differences.
- Uses a novel two stage hash to achieve high speed processing.
- Does one this and does it well.

Cipher Mail Transport Protocol

Prototype SMTP extension

Spring 2015 - Fall 2016

C

- Done in service of my Masters Degree requirements.
- A ground up, end-to-end encrypted replacement for SMTP using a trust on first use model.
- Zero learning curve for users familiar with SMTP email.
- Built with the sodium crypto library.

TEACHING EXPERIENCE

Radboud University

Teaching Assistant

January 2017 - April 2018

Nijmegen, NL

- Developed course material for an introductory networking course and aided in tutorial sessions.

University of Hawaii

Teaching Assistant

January 2015 - May 2016

Honolulu, HI

- Courses: Introduction to Databases and Undergraduate Network Programming.

TECHNICAL STRENGTHS

Computer Languages

C/C++, Rust, Python, Go, Java

Protocols

IP(4/6) Stack, HTTP, REST, DNS

Tools

Git, GCC Chain, Containers/Jails/etc, CI/CD, AWS, Valgrind, SQL/noSQL

Systems

Linux (systemv and systemd), MacOS, BSD, Windows

NON-TECHNICAL STRENGTHS

Diverse

Background beyond CS with strong ability to converse with non-technical audiences.

American and Irish Passports

The (western) world is my oyster.

Photographer

Technical art is still art.