JONATHAN MORONEY

jmoroney@hawaii.edu

https://github.com/darakian

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 project.
· 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 maleware 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

Polymorphic Encryption and Pseudonymization Project   November 2016 - current
Pseudonymous Database   *C++*

· Database and supporting interfaces to store medical data.
· Data retrieval is pseudonymized on a per user basis.
· Data is encrypted at rest.
· Built to be in compliance with the GDPR.

Directory Differential hTool   December 2017
Management Utility   *Rust*

· A tool to recursively traverse directories, hash files and inform the user of duplicates and differences.

Cipher Mail Transport Protocol   Spring 2015 - Fall 2016
Prototype SMTP replacement   *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   January 2017 - April 2018
Teaching Assistant   *Nijmegen, NL*

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

University of Hawaii   January 2015 - May 2016
Teaching Assistant   *Honolulu, HI*

· Courses: Introduction to Databases and Undergraduate Network Programming.

OPEN SOURCE CONTRIBUTIONS

Gnome Foundation

· Report bugs to gnome developers and submit replication reports.
· Test experimental builds of software.
· Covers Gnome Builder, Gedit, Gnome Shell and various components of gnome.

General contributions

· qBittorrent
· Fedora Linux

TECHNICAL STRENGTHS

Computer Languages	C/C++, Rust, Python, R, Java
Protocols	TCP, UDP, IP v4 and v6, (E)SMTP, CMTP, HTTP, SSH, DNS
Databases	PostgreSQL, MongoDB, MySQL, OracleDB
Tools	Git, gnu make, Containers/Jails/etc, Continuous Integration, Jekyll, Valgrind GDB and GCC, lldb and clang
Systems	Linux (systemv and systemd), MacOS, BSD, Windows
Assorted Skills	Bug hunting experience, Unit test creation, writing comments people find helpful

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.