



Milo Trujillo

Scientist, Engineer, Activist



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About me

Computer and Social Scientist, Software Engineer, Hacker. Background in security, distributed systems, and network analysis. Pursuing research and development opportunities involving secure decentralized systems.

Coursework

Graduate

Frontiers of Network Science
Network Resilience
Parallel Computing
Design and Analysis of Algorithms

Undergraduate

Distributed Systems and Algorithms
Social and Computational Trust
Cryptography and Network Security
Distributed Computing
Distributed Systems and Algorithms
Malware Analysis
Modern Binary Exploitation
Intro to AI
Network Programming

Awards

Daniel Pearl Award for Literary Excellence
Samuel Eells Literary & Educational Foundation
Honorable Mention
9th annual Undergraduate Research Symposium, RPI

Education

- 2020 M.Sc. Computer Science Rensselaer Polytechnic Institute
Specializing in Network Science and Social Networks
- 2018 B.Sc. Dual Major (Magna Cum Laude) Rensselaer Polytechnic Institute
Computer Science and Science, Technology, and Society

Experience

- 2017-2018 Undergraduate Research Fellow Santa Fe Institute
Trained neural-networks to develop optimal network hierarchies for a wide variety of scenarios, and contributed to larger complexity research by postdocs and professors
- 2016-2017 INTROSEC Lecturer Rensselaer Polytechnic Institute
Presented fourteen workshops each semester on introductory security topics for RPISEC, RPI's computer security club. Developed each lecture and associated CTF challenges as well as a website to track participant progress
- 2016- Founder, Lead Developer Daylighting Society
Serving as director of a non-profit that protects free speech and privacy by developing software to detect and evade censorship and surveillance

Publications

- 2017 Milo Trujillo, et al Santa Fe Institute Internal Workshop
Optimizing Social Hierarchy

Unpublished Research

- 2018 Milo Trujillo, Jianxi Gao Rensselaer Polytechnic Institute
Information Cascades in Human Networks
- 2018 Milo Trujillo, Sibel Adali Rensselaer Polytechnic Institute
Automated Media Comparison
- 2018 Milo Trujillo, Ron Eglash Rensselaer Polytechnic Institute
How Internet-Age Social Movements Organize to Resist Structural Attacks, Internal Schisms, and Disinformation
- 2017 Milo Trujillo, Taylor Dahlin, Sibel Adali Rensselaer Polytechnic Institute
Network Topology and Linguistic Patterns of Hate Groups on Twitter

Talks Presented

- May 2018 *How Twitter Activist Network Structures Respond to Internal and External Threats*
Presented undergraduate thesis to faculty and doctoral students in the Science, Technology, and Society department
- Jul 2017 *The Design and Impact of Bitcoin and other Cryptocurrencies*
Presented to faculty, postdocs, and undergraduate researchers at the Santa Fe Institute
- Apr 2017 *Extremism Analysis*
Presented research on hate group organization and social patterns to undergraduate research symposium
- Apr 2016 *The History of Malware and Malware-Analysis*
Presented at the Association for Computing Machinery for Women (ACM-W) hackathon
- Oct 2016 *Digital Privacy for Activists*
Presented in "Hactivism" with the RPI cryptoparty
- Apr 2015 *Understanding the Computer Fraud and Abuse Act*
Presented to undergraduate students and professors with the RPI cryptoparty



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Scholarships

Rensselaer Leadership Award
4-Year Merit Scholarship

TA

Data Structures

Skills

Proficient

Unix FreeBSD Linux MacOS
Multi-threading Cytoscape

Comfortable

IDA Pro OlllyDBG REST APIs gdb git
Tensorflow Neural Networks Deep
Learning Windows

Public Projects

- 2018 - Python **SocMap**
Scrapes data and draws social graphs of Twitter communities
- 2017 - Python **Peekaboo**
A port-knocking daemon
- 2017 - Python **SnailDoor**
A socket-less backdoor for secured environments with web-servers
- 2017 - Java, Obj-C **SpeakFree**
Microphone-jamming app to protect private conversations and distribute privacy tips
- 2016 - Java, Obj-C **Where Are the Eyes**
Crowd-sourced network for detecting surveillance as webapp and mobile apps
- 2016 - Misc **IntroSec**
Security competition, lectures, and resources for students
- 2016 - Ruby **Puddle**
Distributed and anonymous file sharing platform and search engine
- 2016 - Ruby **Paillier**
Implementation of a cryptosystem with additive homomorphism, detached signatures, and zero-knowledge proofs
- 2016 - Python **Criticality Test**
Detect the critical hops to the Internet from your present location
- 2016 - Java, Ruby **SelfOrganization**
An agent-based simulation engine demonstrating emergent behavior in insects
- 2016 - Ruby **ImgStore**
Encodes arbitrary data inside PNGs for steganography and easy transmission
- 2016 - Ruby **DTMF Generator**
Generates dual-tone multi-frequency signalling (dial tones) for arbitrary phone numbers
- 2015 - Python **TorHost**
Hosts files over automatically created Tor Onion Services
- 2014 - Haskell **ChillFTP**
A complete, protocol compliant FTP daemon
- 2013 - Perl **Alert**
News aggregator and notification system, parses news feeds for selected terms

Extracurricular Activities

- 2014- *Alpha Delta Phi Society*
Founding member of literary arts and free thought society chapter; past national delegate, treasurer, sysadmin, historian, and chaplain
- 2016- *Upsilon Pi Epsilon*
Member of computer science honors society
- 2016-2018 *W2SZ*
Member of radio club, with FCC Amateur Radio License
- 2015-2017 *Keyspaces*
Taught cryptography and personal security with RPI's cryptoparty
- 2014-2018 *RPISEC*
Core member of RPI's computer security club; train and compete with other members