



Milo Trujillo

Scientist, Engineer, Activist



backdrifting.net



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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
Networking in the Linux Kernel

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

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

- 2019 Technical Designer Pursuance Project
Designed unique hyper-collaborative platform for activist movements, journalists, and other change-agents
- 2019 Platform Engineer DDoSecrets
Created server infrastructure and authentication backend and maintain a complex search engine for leaked and FOIA-released documents - utilized Docker, flask, elasticsearch, cross-site authentication
- 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 protecting free speech and privacy by developing software to detect / evade censorship and surveillance

Publications

- 2018 Milo Trujillo, Ron Eglash SELEF
Activism Under Oppression
- 2017 Milo Trujillo, et al Santa Fe Institute Internal Workshop
Optimizing Social Hierarchy

Unpublished Work

- 2019 Milo Trujillo, Jianxi Gao Rensselaer Polytechnic Institute
Information Spreading in Temporal Human Networks with Heterogeneous Susceptibility
- 2020 Milo Trujillo, et al Rensselaer Polytechnic Institute
What is BitChute? Characterizing the "Free Speech" Alternative to YouTube
- 2020 Milo Trujillo, et al Rensselaer Polytechnic Institute
Radicalization and Indoctrination in Online Chatrooms
- 2020 (est) Milo Trujillo, Jazmyn Borman No Starch Press
Hacking the Planet: An Introduction
- 2020 Milo Trujillo, et al Rensselaer Polytechnic Institute
MS Thesis: Modeling Propaganda Campaigns in Diverse Human Environments



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Awards

Daniel Pearl Award for Literary Excellence

Samuel Eells Literary & Educational Foundation

Honorable Mention

9th annual Undergraduate Research Symposium, RPI

Scholarships

Rensselaer Leadership Award
4-Year Merit Scholarship

TA

Data Structures, 2018-2019
Programming Languages, 2019

Extra Curriculars

Alpha Delta Phi Society

Founding member of literary arts and free thought society chapter; former national delegate, treasurer, sysadmin, historian, chaplain, social-chair, and secretary

Upsilon Pi Epsilon

Member of computer science honors society

W2SZ

Member of radio club, with FCC Amateur Radio License

Keyspaces

Taught cryptography and personal security with RPI's cryptoparty

RPISEC

Core member of RPI's computer security club; train and compete with other members

Talks Presented

- Oct 2019 *Social Movements: Construction and Manipulation*
Guest speaker in Hactivism on social network mapping and intentional community design
- 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

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 - Java, Ruby **SelfOrganization**
An agent-based simulation engine demonstrating emergent behavior in insects
- 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