Jeremy Erickson

jeremy@jeremy-erickson.com

EDUCATION

UC DAVIS | DAVIS, CA
MS in Computer Science
Grad. Mar 2012
GPA: 3.95 / 4.0
Thesis: "An Investigation of Privacy Leaks in Android Applications"

BS in Computer Science
Grad. Dec 2010
GPA: 3.84 / 4.0
Highest Honors

LINKS

Website:// jeremy-erickson.com
Github:// jericks-duo
Github:// jericks-umich
Github:// jericks-sandia
Github:// jenareljam

SKILLS

PLATFORMS
Linux • Kubernetes • Docker
Android • OpenWRT • SGX

PROGRAMMING
Python • C • Bash
Go • C++ • Java (Android) • JS/Web

TOOLSETS
Networking:
Iptables • eBPF • tcpdump
aircrack-ng • Hostapd / wpa_supplicant

Authentication:
Istio • SPIFFE • OIDC
Fingerprints • Facial ID • Vein Scanning

Virtualization:
KVM • Xen • LibVMI

Databases:
PostgreSQL • MongoDB • SQLite

MISCELLANEOUS
git • vim • i3wm • Kerberos • LaTeX
License-conscious

WORK EXPERIENCE

DUO SECURITY | Senior Security R&D Engineer
Sept 2018 – Current | Ann Arbor, MI
- Currently architecting passwordless single sign-on product
- Performed analyses on biometric options for passwordless auth
- Created SAML auth integration for Istio K8s service mesh
- Co-developed early prototype of passwordless auth feature on Duo mobile
- Co-developed first open-source WebAuthn client library for Android
- Created open-source tooling suite for interfacing with Apple T2 chip
- Regularly published research findings on Duo Labs website

UNIVERSITY OF MICHIGAN | Doctoral Candidate
Sept 2015 – Aug 2018 | Ann Arbor, MI
- Evaluated feasibility of enforceable contracts in autonomous vehicle platooning
- Invented home router access control mechanism that prevents MAC/ARP/mDNS spoofing attacks with full legacy device compatibility
- Prototyped enclave-based crypto library for use as root of trusted computing on cloud platforms
- Developed technique for transparent RNG subversion using malicious hypervisor

SANDIA NATIONAL LABS | Senior R&D S&E Cybersecurity
Dec 2010 – Aug 2017 | Livermore, CA
- Developed Linux kernel analysis modules for VM introspection
- Virtualized hardware features of Android devices on minimega
- Core developer for FARM, a distributed malware analysis framework
- Built and maintained multiple private cloud clusters
- Performed vulnerability assessments on Sandia infrastructure

UC DAVIS | Graduate Security Researcher
Jan 2011 – Mar 2012 | Davis, CA
- Developed static analysis framework to detect private information leaks in Android applications
- Reverse engineered Android ad provider SDKs to assess vulnerabilities and discover undocumented use of user data

LEADERSHIP

CYBER TECHNOLOGIES ACADEMY | Founder
Oct 2013 – Sept 2015 | Sandia National Labs | Livermore, CA
- Secured ongoing funding for staff time and scavenged second-hand equipment to build auto-deploying hands-on classroom environment.
- Worked closely with Sandia publicity team to manage outreach to local schools and national partner organizations
- Handled student enrollment, web presence, and program logistics
- Designed and taught classes on Programming, Introduction to Cyber Technologies, and Wireless Penetration Testing

CENTER FOR CYBER DEFENDERS | Program Lead
Apr 2012 – Sept 2014 | Sandia National Labs | Livermore, CA
- Secured funding, projects, and mentorship, hired interns, for summer program
- Conducted biweekly individual feedback sessions with interns
- Served as project lead on one or more intern projects each summer

PUBLICATIONS

Erickson, J., S. Chen, M. Savich, S. Hu and Z. M. Mao (2018). 'CommPact: Evaluating the Feasibility of Autonomous Vehicle Contracts'. In: 2018 IEEE Vehicular Networking Conference (VNC).

Erickson, Jeremy, Qi Alfred Chen, Xiaochen Yu, Erinjen Lin, Robert Levy and Z. Morley Mao (2018). 'No One In The Middle: Enabling Network Access Control Via Transparent Attribution'. In: Asia Conference on Computer & Communications Security (AsiaCCS). ACM.

Erickson, Jeremy Lee, Craig Shannon, Kina Winoto, Steven A Hurd, Christopher W Perr and Levi Lloyd (2015). Introduction to Cyber Technologies. Tech. rep. Sandia National Laboratories (SNL-CA), Livermore, CA (United States).

Choe, Yung Ryn, Michael Bierma, Jeremy Lee Erickson, David Jakob Fritz and Eric Gustafson (2014). 'Andlantis: Large-scale Android Dynamic Analysis.' In: Workshop on Mobile Security Technologies (MoST).

Stevens, Ryan, Clint Gibler, Jon Crussell, Jeremy Erickson and Hao Chen (2012). 'Investigating user privacy in android ad libraries'. In: Workshop on Mobile Security Technologies (MoST), p. 10.

Gibler, Clint, Jonathan Crussell, Jeremy Erickson and Hao Chen (2012). 'AndroidLeaks: automatically detecting potential privacy leaks in android applications on a large scale'. In: International Conference on Trust and Trustworthy Computing. Springer Berlin Heidelberg, pp. 291–307.

TALKS

BLACK HAT USA | Speaker
August 2019 | Las Vegas, NV
Inside the Apple T2

ESCAR USA | Speaker
June 2018 | Ypsilanti, MI
CommPact: Exploring the Feasibility of Autonomous Vehicle Contracts

MERIT MCRCON | Invited Speaker
May 2017 | Dearborn, MI
No one in the Middle: Enabling network access control via transparent attribution

CYBER EDUCATION SYMPOSIUM | Panelist
Nov 2013 | Arlington, VA
Integrating a University Program into the Government and Private Sector

NATIONAL LABS INFORMATION TECHNOLOGY SUMMIT | Speaker
May 2013 | Santa Fe, NM
FARM 5 for Malware Analysis and Collaboration

AWARDS

2015	Award Recipient	Sandia Employee Recognition Award
2014	1st place	SANS NetWars security competition (Virginia Beach)
2013	Award Recipient	Sandia Employee Award for Outstanding Support
2013	Nominee	Sandia Employee Recognition Award
2012	Nominee	Sandia Outstanding Mentor Award
2011	Fellowship Recipient	Sandia Critical Skills Master's Program
2011	Award Recipient	UC Davis Computer Science Department Citation