

Benjamin A. Mixon-Baca

bmixonbaca@gmail.com

5324 Justin Drive, Albuquerque, New Mexico

(505) 410-6163

<https://www.linkedin.com/in/bmixonbaca>

Core Competencies

Reverse Engineering	Exploit Development	Network Security	Mobile Security
x86/64, ARM	OSINT	Threat Hunting	Threat Intelligence
Python, C/C++, Go, Bash	R&D	Machine Learning	Russia, China, some Iran

PROFESSIONAL EXPERIENCE

Senior Security Researcher / Cofounder, Breakpointing Bad, Albuquerque, NM

December 2019-Present

- Performed threat hunting using OSINT data collection, monitoring and analysis
- Performed malware triage using JADX, Ghidra, Python, Bash
- Generated reports and presented findings to technical and non-technical stakeholders
- Built a threat intelligence platform for continuous threat monitoring

Research Assistant, Arizona State University, Tempe, AZ

June 2020 – June 2025

- Identified multiple vulnerabilities in Netfilter on Linux and IPFW, PF, and IPFILTER on FreeBSD that can be exploited to subvert OpenVPN, OpenConnect, and WireGuard. This work is recognized as CVE-2021-3773
- Developed techniques to measure bypass the Russian Firewall, TSPU
- Developed tools and techniques to analyze the Linux operating system using QEMU/KVM, gdb, and panda-re

Senior Information Controls Fellow, Open Technology Fund, Ann Arbor, MI

November 21-22–December 23-24

- Developed tools for real-time, automatic application threat hunting on high-speed network traffic
- Security auditing of PC and mobile applications
- Developed web application for OSINT research, analysis, and reporting for technical and non-technical stakeholders

Innovation Team Lead, RiskSense, Albuquerque, NM

August 2017 – March 2020

- Contributed to an in-house automated exploitation tool using python, metasploit framework, impacket, nmap, bloodhound, and Koadic
- Developed and deployed machine learning algorithms for vulnerability exploitation risk classification
- Wrote patents and received patents for machine learning
- Presented research that helped secure venture capital funding
- Implemented and deployed machine learning algorithms to AWS to predict likelihood of exploitation based on OSINT sources
- Developed and maintained a threat intelligence platform using python and deployed to AWS.

LEADERSHIP EXPERIENCE

Director, Biology, Security, and Society Scholars Program, Arizona State University

September 2018 – Present

- Perform technical and non-technical interviews for engineering and biology Bachelors and Masters students.
- Coordinate disparate projects between multiple technical teams.
- Facilitate weekly career enrichment seminars focused on research at the intersection of biology, security, and society.

Innovation Team Lead, RiskSense

May 2018 - March 2020

- Conducted technical and non-technical interviews for engineering staff.
- Coordinated weekly meetings, defined goals, timelines, identified blockers, and proposed solutions.

EDUCATION**Ira Fulton School of Engineering, Arizona State University, Tempe, AZ** **May 2026**

Doctor of Science, Computer Science

University of New Mexico, Albuquerque, NMMaster of Science, Computer Science **May 2017**Bachelor of Science, Computer Science - Minor, Mathematics **May 2015**

- Awards: Sigma Xi, Superior Undergraduate Student
- Awards: University of New Mexico Senior of the Year
- GPA: 4.00

Publications & Presentations**CryptoFilter: Privacy-Preserving Traffic Analysis of Weak Transport Layer Encryption at Internet Gateways** **Oct 2025**
Benjamin Mixon-Baca, Diwen Xue, Roya Ensafi, Jedidiah R. Crandall WPES 25**TSPU: Russia's Firewall and Defending Against the Future of Digital Repression** **August 2025**
Benjamin Mixon-Baca DEFCON 33**Hidden Links: Analyzing Secret Families of VPN Apps** **July 2025**
Benjamin Mixon-Baca, Jeffrey Knockel, Jedidiah R. Crandall FOCI 2025**Attacking Connection Tracking Frameworks as used by Virtual Private Networks** **September 2024**
Benjamin Mixon-Baca, Jeffrey Knockel, Diwen Xue, Tarun Ayyagari, Deepak Kapur, Roya Ensafi, Jedidiah R. Crandall
PETS 2024**TSPU: Russia's decentralized censorship system** **October 2022**
Diwen Xue, Benjamin Mixon-Baca, ValdikSS, Anna Ablove, Beau Kujath, Jedidiah R. Crandall, Roya Ensafi IMC 2022**Challenges and Opportunities for Practical and Effective Dynamic Information Flow Tracking** **November 2021**
Christopher Brant, Prakesh Shretha, Benjamin Mixon-Baca, Kejun Chen, Said Varlioglu, Nelly Elsayed, Tier Jin, Jedidiah R. Crandall, Daniela Oliveira AMC Computing Surveys**Port Shadows via Network Alchemy (CVE-2021-3773)** **September 2021**
Benjamin Mixon-Baca, Jedidiah R. Crandall Self-published/Blog

PatentsPredicting and Quantifying Weaponization of Software Weaknesses (US-20240126891-A1) **April 2024**