Kristopher Willis

COMPUTER SCIENTIST · COMPUTER SECURITY RESEARCHER · TECHNICAL LEADER

 www.xanthonus.com | xanthonus | xanthonus | Seattle, WA USA

About Me

Experienced foundational and applied research and development engineer with a demonstrated history of working in the computer security domain for over 10yrs. Brings a strong computer science approach to computer security. Strong leadership and mentorship skills having performed as a PI, technical lead, and project manager. Earned a Master of Science in Computer Security from the Computer Science and Engineering department at University of South Florida.

Work Experience

Pacific Northwest National Laboratory
Seattle, WA

COMPUTER SECURITY RESEARCHER
Jan. 2023 - Present

- PI on ARPA-H UPGRADE IV&V
- PI on HPC vulnerabilities and NVIDIA CUDA/PTX/SASS research
- PI on secure wireless capabilities in secure spaces for NNSA
- Head of REsolve Laboratory - infrastructure for vulnerability research projects
- Technical lead on Linux kernel upstream security development project
- Technical lead on multi-lab automated vulnerability analysis framework
- Contributed technical expertise on DARPA's AIxCC
- Technical advisor on multiple projects

Prelude
Seattle, WA

PRINCIPAL COMPUTER SECURITY RESEARCHER
Aug. 2021 - Sep 2022

- Performed foundational research to create TTP industry standard for publication
- Developed training for internal developers on LLVM-CLANG compiler best practices
- Developed real world adversary chains and CVE Proof of Concepts
- Enhanced Prelude AWS infrastructure and implemented GitHub Actions CI/CD
- Producer, co-host, and editor of 0verture: The Prelude Podcast

Pacific Northwest National Laboratory
Seattle, WA

COMPUTER SECURITY RESEARCHER
Oct. 2020 - Aug 2021

- Technical lead on adversarial AI project
- Reverse engineering lead for multi-lab DOE CYTRICS protecting critical infrastructure
- Performed grey box hardware and software analysis on specialized projects
- Participated in several internal DOE program security assessments

CACI - BIT Systems - LGS Labs
Sterling, VA

LEAD COMPUTER SECURITY RESEARCHER AND PROGRAM MANAGER
Apr. 2019 - Sep 2020

- Lead a team of 10 full time engineers working in offensive security research
- Technical architect and lead proposal operations on multiple classified proposals
- Program manager and PI for ARMY Cyber IDIQ
- PI on multiple internal R&D projects totaling $3M year-over-year

BlackHorse Solutions
Herndon, VA

CHIEF SCIENTIST - CYBER DEVELOPMENT
Feb. 2018 - Apr. 2019

- Contributed to over $100 million in opportunities (RFI, RFP, Quads, Whitepapers)
- Technical lead for classified project supporting CTTSO
- Performed grey box vulnerability research on drone control unit
- Performed critical security assessment on a financial firm

CACI - BIT Systems
Sterling, VA

PROJECT MANAGER - OFFENSIVE SECURITY TECHNICAL LEAD
Feb. 2017 - Feb. 2018

- Technical lead on AFRL Black Badge facilitating DARPA's Cyber Grand Challenge (CGC)
- Technical contributor on multiple DARPA programs including CFT, RFT, CONSEC
- Developed emulation and fuzzing framework for a specialized program
- Project manager and technical lead on foundational command and control (C2) framework for USCYBERCOM

Florida Center for Cybersecurity
Tampa, FL

MANAGER OF CYBERSECURITY RESEARCH
Jan. 2015 - Feb. 2017

- SEED Award 2016 selection committee member
- Managed 2017 SEED Grant Awards program providing up to $100,000 funding per research project
- Instructor for New Skills for New Fight Veterans cybersecurity training program
- Architected and administered multi-million-dollar datacenter infrastructure

Apple Inc. *Tampa, FL*

Hardware and Software Technician *Aug. 2012 - Feb. 2015*

- Technical leader enhancing customer experience through problem solving
- Resource for specialists and managers for complex repairs and diagnostics

Research Interests

Software Security	Secure Toolchain, Kernel, Trusted Platform
Automated Program Analysis	Cyber Reasoning Systems(CRS), Vulnerability Research, Program Correctness
Offensive R&D	Adversarial AI, Advanced C2, Adversary Emulation

Conference Presentations

The Hacker Among Us: Adversary Emulation + GenAI To Protect Critical Infrastructure *Laurel, MD*

BioISAC Cyberbiosecurity Summit *2025*

MALARD: GenAI framework for Malware Analysis *Arlington, VA*

Malware Technical Exchange (MTEM) *2024*

Intro to Adversary Emulation with Prelude Operator *Virtual*

c0c0n Adversary Village *2021*

How to Develop Automated Reverse Engineering Framework *Tampa, FL*

Florida Center For Cybersecurity Annual Conference *2017*

Training

Program Analysis for Vulnerability Research *Montreal, CA*

REcon 2024 - Margin Research and Vector 35 *June 2024*

- Training conducted by Margin Research and Vector 35
- Advanced program analysis techniques using Binary Ninja

Skills

Management	research & proposal writing, client engagement, financial tracking, technical hiring
Programming Languages	C, Rust, Python, LaTeX
Computer Architecture	x86, ARM, RISC, NVIDIA GPUs
Software Analysis	fuzzing, emulation, reverse engineering tools
AI/ML Security	GPU security, AI red teaming, automated analysis frameworks
Information Technology	cloud, hypervisors, Linux, PowerShell, Git

Education

University of South Florida *Tampa, FL*

Master of Science in Computer Security Fundamentals, Computer Science and Engineering *Aug. 2015 - May. 2017*

- Whitehatters Computer Security Club President 2016-2017
- Graduate research whitepaper focused on vulnerability research of Intel Software Guard Extensions (SGX)
- Lead instructor and curriculum creator for WCSC Pre-College program
- Grant winner of NSA Gen-Cyber program to develop and instruct cybersecurity curriculum

University of South Florida *Tampa, FL*

Bachelor of Science in Information Studies, School of Information *Aug. 2010 - Aug. 2015*

- Whitehatters Computer Security Club President 2015-2016
- Undergraduate research whitepaper focused on honeypots and malware analysis

Cyber Capture The Flag

Teams	Samurai/Shellphish (Current), WCSC (Alumni),NASA Rejects, BORG
Achievements	5x DEFCON-CTF Finals & 2x Hack-A-Sat Finals
Organizer	CSAW 2020, Sunshine-CTF 2017, WCSC-CTF 2015-2017, Blaze-CTF 2016
Focus Areas	Reverse Engineering, PWN, Cryptography