

CONTACT
INFORMATION

Phone: (+886) 919 610 611
 E-mail: a0919610611@gmail.com
 Website: twleo.com GitHub: a0919610611

RESEARCH
INTERESTS

Software Security, Software Verification, Software Engineering

EDUCATION

National Chiao Tung University
 B.S. in Computer Science

Hsinchu, Taiwan
Sep, 2015 - Jan, 2019

ACADEMIC
EXPERIENCE**Academia Sinica**

Taipei, Taiwan

Research Assistant

Oct, 2018 - May, 2020

Advisers: Bow-Yaw Wang, Bo-Yin Yang

- Verify cryptographic programs
 - Design and implement a GCC plugin named GCC2CRYPTOLINE that translate GCC's intermediate representation – GIMPLE to CRYPTOLINE – DSL used to verify cryptographic programs.
 - Verify several functions in well-known industrial cryptographic libraries including OpenSSL, BoringSSL, NaCl, wolfSSL, and Bitcoin's libsecp256k1.
 - Found a bug in NaCl and reported it to the developer.
 - Present(Oral) the work at ACM CCS 2019 in London, UK. [1]
- Help certify cryptoline verifier by Coq.
 - Help certify bit blasting algorithm for SMT QFBV theory.

Summer Research Intern

Jul, 2018 - Aug, 2018

Adviser: Bow-Yaw Wang

- Design and implement a privacy protection system using Ethereum, IPFS, Python.
- Design and implement a web app used to interact with the Ethereum-based privacy protection system using MetaMask, React, JavaScript.

National Chiao Tung University

Hsinchu, Taiwan

Undergraduate Research

Feb, 2018 - Jan, 2019

Adviser: Shih-Kun Huang

- Survey AEG (automatic exploit generation) and angr.
- Employ angr and pwntools to implement a tiny AEG tool.
- Present in the final of undergraduate research competition.

PUBLICATIONS

Signed Cryptographic Program Verification with Typed CryptoLine

CCS 2019

Yu-Fu Fu, Jiaxiang Liu, Xiaomu Shi, Ming-Hsien Tsai, Bow-Yaw Wang, Bo-Yin Yang

ACM Conference on Computer and Communications Security

(AC rate: 16%)

HONORS AND

Academic Achievement

AWARDS (SELECTED)

- **Academic Achievement Award** * 7 - NCTU CS Dept.
 Awarded to Top 5% students in one semester. Awarded in **all** semesters.

Hsinchu, Taiwan

Problem Solving & Capture The Flag Contest

- **Finalist 12th** in team BFS - DEFCON CTF 26 Final
- **Silver Medal** - ACM ICPC 2017 Asia Hua-Lien Regional Contest
- **Honorable Mention** - ACM ICPC 2017 Asia Jakarta Regional Contest
- **14th Place** – National Collegiate Programming Contest

Las Vegas, USA
 Hua-Lien, Taiwan
 Jakarta, Indonesia
 Taipei, Taiwan

EXTRACURRICULAR	NCTU CS Computer Center <i>Teaching Assistant</i> <ul style="list-style-type: none"> • PC team: maintained computers in the department. • BSD team: maintained FreeBSD workstations. • WWW team: developed and maintained department websites. • Helped students and faculties solve software and hardware problems. 	Hsinchu, Taiwan Jul, 2017 - Jul, 2018
	NCTU Programming Competition Contest Association <i>Member</i> <ul style="list-style-type: none"> • Practiced for algorithm contests including national contests and ACM ICPC. • Hold summer/winter camps targeting high school students. 	Hsinchu, Taiwan Feb, 2016 - Jul, 2018
	NCTU Cyber Security Club <i>Network Administrator & Lecturer</i> <ul style="list-style-type: none"> • Taught web security about HTTP, XSS, CSRF. • Maintained servers hosted at Linode. • Attended CTFs in team Bamboofox. 	Hsinchu, Taiwan Sep, 2016 - Jun, 2019
CONFERENCE	<ul style="list-style-type: none"> • Speaker - ACM CCS 2019 	London, United Kingdom
MEMBERSHIP	<ul style="list-style-type: none"> • Member - ACM 	
COMPUTER SKILLS	<ul style="list-style-type: none"> • Languages: C/C++, Python, JavaScript, OCaml, shell script, basic SQL • Proof Assistant: Coq • Applications: Git, Vim, Emacs, \LaTeX • Operating Systems: Linux, FreeBSD, macOS, Windows 	