# Dang Khac Minh Le

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- Skillful in Linux system security & software reverse engineering.
- Proven track records in Cybersecurity Competitions.
- Exploring AI's potential in Cybersecurity through DARPA's AIxCC (AI Cyber Challenge).

## Education

**Northwestern University** — Evanston, IL, US
PhD in Computer Science, Advisor: Dr. Xinyu Xing — 2023–Present

**University of Technology (HCMUT), VNU-HCM** — Ho Chi Minh City, Vietnam
B.Eng in Computer Engineering, *Honors Program*, GPA: 9.46/10.00 — 2018–2022

- Thesis: "RISC-V SoC hardware security testing by HDL analysis"

**High School for the Gifted, VNU-HCM** — Ho Chi Minh City, Vietnam
Physics Major — 2015–2018

## Experience

**Teaching Assistant - Northwestern University** — US
**CS350 - Introduction to Computer Security** (Fall Quarter 2024)
**CS396 - Advanced Offense and Defense in Cybersecurity** (Fall Quarter 2022, 2023)

- Lead lab sessions on the topics of basic cryptography & cryptanalysis, web exploitation, stack-based binary exploitation, advanced heap-based binary exploiation, and basic Linux kernel exploitation.
- Prepared lab exercises and homework projects in the related topics in the form of CTF-style challenges.
- Held Office Hours to assist students on related topics.

**Sec3** — US
Remote Smart Contract Auditting Intern — Jun 2023–Sep 2023

- Performed auditting work on various real-world Solana-based projects

**Northwestern University** — Evanston, IL, US
Research Intern under Dr. Xinyu Xing — Aug 2022–May 2023

- Participated in research projects in the topic of Linux kernel security.
- Lab assistant in Advanced Offense & Defense in Cybersecurity course.

**VNG Corporation** — Ho Chi Minh City, Vietnam
Security Intern at BShield Team — Feb 2020–Aug 2022

- Contributed to an LLVM-based obfuscation project for ARM and x86 binaries by researching obfuscation techniques and developing LLVM passes.
- Practiced on other security-related skills such as reverse engineering and hardware hacking.

## Publications

1. Guo, Z., **Le, D.**, Lin, Z., Zeng, K., Wang, R., Bao, T., Shoshitaishvili, Y., Doupe, A., Xing, X.,"Take a Step Further: Understanding Page Spray in Linux Kernel Exploitation", *Proceedings of the 33rd USENIX Security Symposium (USENIX Security)*, Philadelphia, August 2024

2. Wang, Z., Guang, Y., Chen, Y., Lin, Z., Le, M., **Le, D.**, Williams, D., Xing, X., Gu, Z., Jamjoom, H.,"SeaK: Rethinking the Design of a Secure Allocator for OS Kernel", *Proceedings of the 33rd USENIX Security Symposium (USENIX Security)*, Philadelphia, August 2024

3. Wu, Y., Lin, Z., Chen, Y., **Le, D.**, Mu, D., Xing, X., "Mitigating Security Risks in Linux with KLAUS: A Method for Evaluating Patch Correctness", *Proceedings of the 32nd USENIX Security Symposium (USENIX Security)*, Anaheim, August 2023

## Competitions

- **Finalist**, **AIxCC** - DARPA AI Cyber Challenge (Team *42-b3yond-6ug*) Aug 2024
- **Finisher**, **Flare-On 9** Reverse Engineering Contest (as *midas*) Oct 2022
- **21st Place** & **Writeup Prize**, **GoogleCTF 2022** (Team vh++) Jul 2022
- **Finisher**, **Flare-On 8** Reverse Engineering Contest (as *dionadiano*) Oct 2021
- **19th Place** & **Writeup Prize**, **GoogleCTF 2021** (Team vh++) Jul 2021
- **3rd Place** **TetCTF 2021** (Team efiens) Jan 2021
- **2nd Prize**, **ISITDTU CTF 2020 Final** (Team efiens) Dec 2020
- **2nd Prize**, ASEAN Student Contest on Information Security Final (Team NotEfiens) Nov 2020
- **1st Place**, **TetCTF 2020** (Team efiens) Jan 2020
- **Consolation Prize**, ASEAN Student Contest on Information Security Final (Team noobiens) Nov 2019

## Scholarships and Awards

- **Cabell Fellowship**, Northwestern University, McCormick School of Engineering 2023
- **KSYS-CUBE Scholarship**, Kanden System Inc. and Cube System Inc. 2020
- **Vallet Scholarship**, Recontres du Vietnam 2020
- **Student of 5 Merits Award**, Vietnam National University - Ho Chi Minh 2020 & 2021
- **Award for Outstanding Student**, University of Technology (HCMUT), VNU-HCM 2020

## Relevant Experience

- **Student**, Global Cybersecurity Camp (GCC) Tokyo 2020
  *GCC is an annual 1-week international cybersecurity training programme managed by Japan, Singapore, South Korea, Taiwan, and more countries. During the training, I took part in several lectures on incident response, reverse engineering and exploitation.*
- **Mentor**, Bach Khoa Information Security Club (BKISC) 2022–Present
  *BKISC is a group of students from Ho Chi Minh city University of Technology, passionated by cybersecurity. The group inherited the knowledge and experience of formal members of Efiens, with the goal of creating a playground for all the students who share the same passion.*
- **Team Member**, Efiens Security Club 2019–2022
  *Efiens is a group of self-taught security enthusiasts who enjoy sharing our knowledge with those interested in learning. We regularly participate in various training activities and cybersecurity contests.*

## Skills

- **Experienced:** Code static analysis, Binary exploitation, Reverse engineering, Smart Contract auditing (Solana), LLM agent for Security tasks
- **Programming Languages:** C/C++, Python, Rust
- **Hardware Description Languages:** Verilog HDL
- **Tools:** IDA, Ghidra, GDB, LLVM
- **Libraries:** Pwntools, Z3Solver, Malduck, LangGraph

## Languages

- **Vietnamese:** Mother tongue
- **English:** Intermediate
  - **TOEIC:** 965/990 (May 2020)
  - **IELTS:** 8.0/9.0 (March 2022)

## References

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