

AMANDA C. HSU

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EDUCATION

University of Illinois at Urbana-Champaign
B.S. Computer Engineering

Expected Graduation: May 2021

SKILLS

C, C++, Python, Javascript, Assembly Language (x86), P4

RESEARCH EXPERIENCE

University of Illinois at Urbana-Champaign

September, 2018 - Present

Professor William H. Sanders

Revisiting Client Puzzles for State Exhaustion Attacks Resilience

- Implemented method of queuing requests by priority (determined by client puzzles) in the TCP stack to combat Distributed Denial of Service (DDoS) attacks in the Linux Kernel

Circuit-Level Verification of P4 Programs

- Developed method of P4 language verification via and-inverter graph
- Parsed networking programs to circuit components to be validated using hardware synthesis

PUBLICATIONS

1. M. A. Nouredine, A. M. Fawaz, **A. Hsu**, C. Guldner, S. Vijay, T. Basar, and W. H. Sanders. (18NOU01) Proceedings of the 2019 49th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2019), Portland, Oregon, USA, June 24-27, 2019, pp. 617-629.
2. M. A. Nouredine, **A. Hsu**, M. Caesar, F. A. Zaraket, W. H. Sanders, P4 AIG: Circuit-Level Verification of P4 Programs, Dependable Systems and Networks (DSN), June 2019.

CONFERENCES

[4] Reviewer, USENIX NSDI 2021

[3] Reviewer, ACM CCS 2020

[2] WE19 SWE International Conference Attendee (2018), Anaheim, CA

[1] WE18 SWE International Conference Attendee (2018), Minneapolis, MN

INDUSTRY EXPERIENCE

Non-Volatile Memory Firmware Validation Intern **Intel**

May 2019 - August 2019

- Develop Python scripts to collect data to standardize test system setup, including hardware and software specifications
- Scripts used to reduce false-negatives on firmware validation tests

Analyst Intern, Independent Contractor **Bellwether Analytics**

June 2019 - March 2019

- Implemented small-scale data analysis for over 10,000 pharmaceutical records
- Created applications to create precise market landscapes which were used to advice R&D departments of various pharmaceutical companies

- Wrote JavaScript programs to collect and analyze data from specific public databases
- Built GUI to make data analytics user-friendly

LEADERSHIP AND EXTRACURRICULAR EXPERIENCES

Society of Women Engineers

Aug 2017 - Present

- President (2020-21)
- Treasurer (2019-20)
- Webmaster (2018-19)
- SWE 5k Chair (2017-18)

CUBE Consulting

Jan. 2019 - May 2020

- Consultant (2019-20)

AWARDS AND SCHOLARSHIPS

PricewaterhouseCoopers Grace Hopper Scholar

2018

North Shore Community Service Award for Extra Effort

2017