AMANDA C. HSU

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EDUCATION

University of Illinois at Urbana-Champaign   *Expected Graduation: May 2021*
B.S. Computer Engineering   *GPA: 3.52*

RESEARCH EXPERIENCE

External Organization Identification   *July 2020 - Present*
University of Illinois at Urbana-Champaign, Stanford University
Advisors: Professor Matthew Caesar, Professor Zakir Durumeric

- Analyze external sources for correlations to identify organizational boundaries in IPv4 space

- Sources include Censys scanning data and WHOIS records

Circuit-Level Verification of P4 Programs   *January 2019 - Present*
University of Illinois at Urbana-Champaign
Advisors: Professor William H. Sanders, Professor Matthew Caesar

- Modeled data-plane programs as sequential circuits to be verified using hardware techniques including model-checking

- Implemented with P4 language

Client Puzzles for State Exhaustion Attacks Resilience   *August 2018 - December 2018*
University of Illinois at Urbana-Champaign
Advisor: Professor William H. Sanders

- 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

PUBLICATIONS

1. Mohammad A. Noureddine, Ahmed M. Fawaz, **Amanda Hsu**, Cody Guldner, Sameer Vijay, Tamer Başar, William H. Sanders (2019). Revisiting Client Puzzles for State Exhaustion Attacks Resilience. 2019 49th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN).

2. Mohammad A. Noureddine, **Amanda Hsu**, Matthew Caesar, Fadi A. Zaraket, William H. Sanders, P4 AIG: Circuit-Level Verification of P4 Programs. 2019 49th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN).

PROFESSIONAL SERVICE

- Student Organizer, ACM SIGCOMM 2020

- Reviewer, USENIX NSDI 2021

- Reviewer, ACM CCS 2020

INDUSTRY EXPERIENCE

Software Engineering Intern **Censys**   *May 2020 - August 2020*
- Work on attribution system that utilizes internet-wide scan data to associate assets including hosts, certificates, and domains, to customers

- Contributions include API development in Go and Python as well as database management

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 2018 - March 2018*

- 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

CONFERENCES

- WE19 SWE International Conference Attendee (2019), Anaheim, CA

- WE18 SWE International Conference Attendee (2018), Minneapolis, MN

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*

SKILLS

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