

# AMANDA C. HSU

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## EDUCATION

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

*Expected Graduation: May 2021*

## RESEARCH EXPERIENCE

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

*January 2019 - Present*

- 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**  
*University of Illinois at Urbana-Champaign*  
Advisor: William H. Sanders

*August 2018 - December 2018*

- 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

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1. Mohammad A. Nouredine, 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. Nouredine, **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

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- Student Organizer, ACM SIGCOMM 2020
- Reviewer, USENIX NSDI 2021
- Reviewer, ACM CCS 2020

## INDUSTRY EXPERIENCE

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*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

- Implemented small-scale data analysis for over 10,000 pharmaceutical records
- Created applications to create precise market landscapes which were used to advise 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

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- WE19 SWE International Conference Attendee (2019), Anaheim, CA
- WE18 SWE International Conference Attendee (2018), Minneapolis, MN

## LEADERSHIP AND EXTRACURRICULAR EXPERIENCES

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### **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

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PricewaterhouseCoopers Grace Hopper Scholar

*2018*

North Shore Community Service Award for Extra Effort

*2017*

## SKILLS

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