

# 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*

## SKILLS

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

## RESEARCH EXPERIENCE

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

*September, 2018 - Present*

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

- Modeled data-plane programs as sequential circuits to be verified using hardware techniques including model-checking
- Parsed P4 programs into circuit structures

## PUBLICATIONS

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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

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[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

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*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

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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*