AMANDA C. HSU

847-530-7515 ⋄ ahsu67@gatech.edu

EDUCATION

Georgia Institute of Technology *Expected Graduation: 2026*
Ph.D. in Computer Science *GPA: 4.0*
Advisors: Professor Paul Pearce, Professor Frank Li

University of Illinois at Urbana-Champaign *May 2021*
B.S. Computer Engineering, with Honors *GPA: 3.52*

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).

RESEARCH EXPERIENCE

External Organization Identification *July 2020 - May 2021*
University of Illinois at Urbana-Champaign
Advisors: Professor Matthew Caesar

- 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 - May 2021*
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 bounded 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

- Prove that client puzzles are a valid defense against Distributed Denial of Service (DDoS) attacks

- Implemented method of priority queuing requests determined by client puzzles in the TCP stack of the Linux Kernel

PROFESSIONAL SERVICE

- Lead Student Organizer, ACM SIGCOMM 2021

  - Presented Student Welcome Session for all students attending SIGCOMM 2021

  - Collaborated with professionals in the SIGCOMM community to compile content relevant to students attending academic conferences

- Student Program Committee Volunteer, ACM SIGCOMM 2021

  - Observed 2-day-long review of paper submissions to SIGCOMM 2021

  - Ensured that no committee members with conflicts were present during paper reviews

- Reviewer, USENIX NSDI 2021

- Student Organizer, ACM SIGCOMM 2020

- Reviewer, ACM CCS 2020

AWARDS AND SCHOLARSHIPS

Graduate Research Fellowship Program (GRFP), National Science Foundation (NSF)	*2022*
Herbert P. Haley Fellowship, Georgia Institute of Technology	*2022*
President's Fellow, Georgia Institute of Technology	*2021*
Knights of St. Patrick Award, University of Illinois at Urbana-Champaign	*2021*
PricewaterhouseCoopers Grace Hopper Scholar	*2018*
North Shore Community Service Award for Extra Effort	*2017*

INDUSTRY EXPERIENCE

Research Intern **Censys** *May 2021 - August 2021*
- Design and implement methods of HTTP scanning to identify strong attribution data points

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 Co.** *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 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 - May 2021*
- President (2020-21)

- Treasurer (2019-20)

- Webmaster (2018-19)

- SWE 5k Chair (2017-18)
- Consultant (2019-20)

SKILLS

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