

Alisha Ukani

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Education

University of California San Diego

Ph.D. in Computer Science

Advisor: Alex C. Snoeren. GPA: 4.0

San Diego, CA

2020 – Present

University of California San Diego

M.S. in Computer Science

Advisor: Alex C. Snoeren. GPA: 4.0

San Diego, CA

2020 – 2022

Harvard University

A.B. in Computer Science

Graduated with honors and cum laude in field. GPA: 3.81

Cambridge, MA

2016 – 2020

Papers

Refereed Papers.....

* Indicates equal contributions

[WWW 24]: A. Senol*, **A. Ukani***, D. Cutler, I. Bilogrevic, “The Double Edged Sword: Identifying Authentication Pages and their Fingerprinting Behavior” The Web Conference (WWW) 2024. 20% acceptance rate

[CSET 23]: A. Mirian, **A. Ukani**, I. Foster, G. Akiwate, T. Halicioglu, C. Moore, A.C. Snoeren, G. Voelker, S. Savage, A. Schulman, “In the Line of Fire: Risks of DPI-triggered Data Collection” Cyber Security Experimentation and Test Workshop (CSET) 2023.

[IMC 22]: A. Randall, P. Snyder, **A. Ukani**, A.C. Snoeren, G. Voelker, S. Savage, A. Schulman, “Measuring UID Smuggling in the Wild.” ACM Internet Measurement Conference (IMC) 2022. 26% acceptance rate

[IMC 21]: **A. Ukani**, A. Mirian, A.C. Snoeren, “Locked-In during Lock-Down: Undergraduate Life on the Internet in a Pandemic.” ACM Internet Measurement Conference (IMC) 2021. 24% acceptance rate

In-Progress Papers.....

[1]: **A. Ukani**, B. Du, K. Izhikevich, S. Mittal, M. Patel, S. Srinath, K. Ly, k. claffy, A.C. Snoeren, “Country-in-the-Middle: Measuring Paths between People and their Governments” (In Preparation)

[2]: K. Izhikevich, B. Du, S. Rao, **A. Ukani**, L. Izhikevich, “Trust, But Verify, Operator-Reported Geolocation” (In Submission)

[3]: J. Larisch, E. Liu, **A. Ukani**, G. Oliaro, S. Raghuvanshi, J. Hsu, S. Herwig, J. Mickens, E. Kohler, “Juice: A Serverless Architecture for Transparent State” (In Submission)

Awards and Honors

2024: UCSD CSE Award for Service/Leadership

2022: NSF Graduate Research Fellowship

2022: UCSD CSE Award for Contributions to Diversity

2021-2024: ARCS Foundation San Diego Fellowship

2021: Invited to join Tau Beta Pi and Eta Kappa Nu engineering honor societies (top 20% of graduate students)

2020: Harvard University Certificate of Distinction and Excellence in Teaching

2019: Google Peer Bonus Award (x2)

2017,2018,2019: Charles J. Paine Scholarship Award Recipient

2018: Harvard University Office of Student Life Spirit of Harvard College Award

2017: Harvard University Office of Student Life Emerging Leader Award

Program Committees

2024: ACM Internet Measurement Conference (IMC)

Industry Experience

Google

Cambridge, MA

Research Intern / Student Researcher

June 2022 – February 2023

- o Measured the prevalence of browser fingerprinting as used for web authentication as part of the Privacy Sandbox Team
- o Developed a new technique to detect login and sign-up pages using Chrome Autofill heuristics, which is 2.5x more effective than prior work
- o Crawled 1M websites with their corresponding login and sign-up pages to determine if sites are fingerprinting
- o Work was published at The Web Conference (WWW) 2024

Google

San Diego, CA

Research Intern

June 2021 – September 2021

- o Determined a signal to detect network availability anomalies that are otherwise undetected; this signal is being incorporated into a new anomaly detection system
- o Analyzed data from an internal tool that detects outages and reroutes traffic; used this data to classify events as network black holes or congestion
- o Discovered network congestion created by the internal tool and proposed a solution to continue increasing availability without adding congestion

Google

Cambridge, MA

Software Engineering Intern

May 2019 – August 2019

- o Completed migration for Google Search infrastructure by isolating dependencies for 3 core “plugins” written by feature developers, which involved creating new APIs based on 25+ code packages
- o Reduced build/deploy latency and increased code readability
- o Tracked and reported migration process by integrating tooling to produce a live-updating graph of the number of plugins needed to be converted
- o Removed legacy infrastructure after completing migration
- o Awarded two Peer Bonus Awards for providing extra assistance to feature developers
- o Started building a tool to automatically detect BGP security attacks in real time as a “20% project”

Talks

“The Double Edged Sword: Identifying Authentication Pages and their Fingerprinting Behavior”:

- University of Maryland: September 2024
- UCSD CNS Research Review: May 2024
- MIT PDOS Group: March 2024
- Northeastern University: March 2024
- Boston University Security Seminar: March 2024

“Trusted Computing”:

- Guest lecture for UCSD Graduate Security class (CSE 227): October 2023

“Locked-In during Lock-Down: Undergraduate Life on the Internet in a Pandemic”:

- UCSD CSE Research Open House: March 2022
- Stanford Empirical Security Seminar: November 2021
- Google: September 2021
- Google PhD Intern Research Conference: July 2021
- MIT Security Seminar: May 2021

Leadership and Service

UCSD Graduate Women in Computing (GradWIC)

San Diego, CA

Co-President

July 2023 – Present

- Leading a student organization of 500+ members across five departments at UCSD
- Expanded a one-off scholarship to academic conferences into a quarterly scholarship, enabling 10 students to attend conferences and advance their research careers

UCSD Early Research Scholars Program

San Diego, CA

Research Mentor

September 2023 – June 2024

- Mentored four undergraduate students
- Taught advanced computer networking topics, how to analyze data, academic writing
- Students contributed to a paper submitted to a top-tier conference

NSF GRFP Application Assistance

San Diego, CA

Co-Founder and Mentor

October 2022 – Present

- Started a committee to provide feedback on NSF GRFP application essays from UC San Diego and UC Santa Cruz students
- Gave two presentations on an overview of GRFP and its criteria

UCSD Graduate Women in Computing (GradWIC)

San Diego, CA

Mentorship Program Co-Chair

June 2021 – June 2022

- Managed a mentorship program for graduate students with 145 participants
- Restarted partnership with a campus coffee shop to provide free coffee for mentorship program participants
- Matched mentors and mentees, planned social events, and maintained a Slack Workspace for the program
- Helped write grant proposals to acquire \$25k in funding

City of Cambridge Open Data Review Board

Cambridge, MA

Member

August 2018 – August 2020

- Advised the City about residents' concerns on publication of open data and privacy concerns
- First student member of the board

Teaching Experience

UC San Diego

TA: *Graduate Computer Security (CSE 227)*

Fall 2023

- Gave a guest lecture “Trusted Computing” (October 3, 2023)
- Responsible for holding office hours, assisting with evaluating reading responses, and mentoring students’ final projects

Harvard University

TA: *Intro to Systems Programming and Machine Organization (CS 61)*

Fall 2019

- Received 4.73/5.0 average rating for teaching effectiveness from student evaluations
- Awarded Certificate of Distinction and Excellence in Teaching
- Led biweekly discussion sections, held weekly office hours, and graded homeworks and exams
- Student comments:
 - “Very open and available. Whenever I had a problem conceptually understanding what was going wrong in my code, Alisha would ensure that I thoroughly understand relevant concepts rather than just telling me what was wrong directly, which really helped solidify concepts for me.”
 - “Alisha was another very incredible section leader. She helped make sections more interesting and helped with explaining concepts of the problem set whenever possible.”
 - “She is good at explaining the material and encouraging student participation and independent thinking in section.”

Harvard University

TA: *Intro to Systems Programming and Machine Organization (CS 61)*

Fall 2018

- Received 4.70/5.0 average rating for teaching effectiveness from student evaluations
- Student comments:
 - “Awesome section. Loved how you always checked to make sure everyone was following along and understanding the material, and you also covered the most pertinent parts that people were interested in. Greatly appreciated.”
 - “Alisha is super kind and patient while debugging!”