

# Dhruv Kuchhal

Applied Scientist II at Amazon WW Stores  
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dhruvkuchhal.com  
Google Scholar

## ABOUT ME

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I specialize in large-scale investigations of Web-based security and privacy issues. Using data-driven approaches, my work reveals the impact of real-world systems on end user security, and leads to designing better solutions. My methods include Internet/Web-wide measurements, network traffic analysis, and large-scale data mining.

## INDUSTRY WORK EXPERIENCE

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- **Amazon.com** Seattle, WA  
*Applied Scientist II, Special Projects and Investigations* May 2024 - Present
  - Leading large-scale cross-organizational initiatives to remove bad actors from the Amazon marketplace.
  - SME on Web Authentication: Implemented public credential intelligence-based sanitization pipeline that is currently securing X M customers/month + drove a major bug patch in the production pipeline for compromised account sanitization.
  - Innovation Award (Q4 '24): built data pipeline that uses multi-modal LLM to “walk the store”, discover fraudulent product listings, and enforce bad actors.
  - CFP Chair for Cybersecurity Research and Anti-Abuse Technologies Amazon Research Awards [link].
- **Lacework, Inc. (acquired by Fortinet, Inc.)** Mountain View, CA  
*Senior Security Engineer, Lacework Labs* March 2024 - May 2024
  - Cloud Security Research: Engineered detections for proactively alerting for attacks in the cloud environments (GCP, AWS, Azure), based on telemetry from agents as well as agentless log data.
- **PayPal, Inc.** Scottsdale, AZ  
*Senior Research Scientist, Anti-Fraud* Summers of 2021 and 2022, August 2023 - February 2024
  - Developed capabilities for passkey risk monitoring, and presented a paper on the practical attacks and defenses for real-world FIDO2 deployments at ACM CCS 2023.
  - Reported a bug in Google Chrome that could be exploited to trick a user enrolled in WebAuthn into authenticating an attacker-controlled sensitive action on their account. [Chromium Issue 1341134].
  - Built data pipelines for scam merchant detection. Established a strategic collaboration with GASA.
  - SME on policy issues such as Authentication and related Anti-Trust legislation in the EU.

## ACADEMIC WORK EXPERIENCE

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- **Georgia Institute of Technology (GT)** Atlanta, GA  
*PhD Candidate, Advisor: Prof. Frank Li.* 2020 - 2023
  - Research in Web Security, Privacy, and Abuse (IMC '21, WWW '22, CCS '23, IMC '24).
- **University of Maryland, College Park** College Park, MD  
*Research Assistant, Advisor: Prof. Michelle Mazurek.* 2018 - 2019
  - Evaluated response biases in security user studies (CCS '18).
  - Developed tools to measure the readability of security advice (EMNLP '19).
- **Indraprastha Institute of Information Technology** Delhi, India  
*Research Associate, Advisor: Prof. Ponnurangam Kumaraguru.* 2017 - 2019
  - Analyzed misinformation on end-to-end encrypted platforms such as WhatsApp (Times of India, 2019).
  - Characterized spam campaigns abusing phone numbers on online social networks (WebSci '18).

## HIGHEST EDUCATION

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- **Georgia Institute of Technology** Atlanta, GA  
*Doctor of Philosophy in Computer Science. Advised by Prof. Frank Li.* 2019 – 2023

## SELECTED PUBLICATIONS

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### CONFERENCE

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- **Kuchhal, D., Ramakrishnan, K., and Li, F.,**  
**Whatcha Lookin' At: Investigating Third-Party Web Content in Popular Android Apps.**  
ACM Internet Measurement Conference (**IMC**), 2024.  
*Acceptance Rate: 21.34% (54/253)* [[dl.acm.org](#)][[pdf](#)]
- **Kuchhal, D., Saad, M., Oest, A., and Li, F.,**  
**Evaluating the Security Posture of Real-World FIDO2 Deployments.**  
ACM Conference on Computer and Communications Security (**CCS**), 2023.  
*Acceptance Rate: 19.1% (234/1222)* [[dl.acm.org](#)][[pdf](#)] ☆ [[FIDO Security Bulletin](#)]
- **Kuchhal, D. and Li, F.,**  
**A View into YouTube View Fraud.**  
ACM Web Conference (**WWW**), 2022.  
*Acceptance Rate: 17.7% (323/1822)* [[dl.acm.org](#)] [[pdf](#)] [[video](#)]
- **Kuchhal, D. and Li, F.,**  
**Knock and Talk: Investigating Local Network Communications on Websites.**  
ACM Internet Measurement Conference (**IMC**), 2021.  
*Acceptance Rate: 27% (53/196)* [[dl.acm.org](#)] [[pdf](#)] [[video](#)]
- Gupta, S., **Kuchhal, D.,** Gupta, P., Ahamad, M., Gupta, M. and Kumaraguru, P.,  
**Under the Shadow of Sunshine: Characterizing Spam Campaigns Abusing Phone Numbers Across Online Social Networks\*.**  
ACM Conference on Web Science (**WebSci**), 2018.  
*Acceptance Rate: 27% (30/113)* [[dl.acm.org](#)] [[pdf](#)]  
**Award: Runner up for Best Student Paper**

## ACHIEVEMENTS/HONORS

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- **FIDO Alliance:** A security bulletin was distributed by the FIDO Alliance, emphasizing our threat model and attacks.
- **Y Combinator 2023:** Admitted to the Summer 2023 batch (1.5% acceptance rate; USD 500k pre-seed investment), to innovate on a GenAI-hardened replacement for CAPTCHAs on the Web.
- **RSAC Security Scholar 2023:** Selected among 50 cybersecurity students across US to attend the RSA Conference.
- **USC Annenberg Fellowship, 2019:** Received a 4-year top-up fellowship for a CS PhD at USC (top 1% of admits).
- **Smart India Hackathon, 2017:** Our team of 6 members, advised by [Dr. Sambuddha Roy](#) won the first prize at India's national hackathon (10k+ students), with a cash prize of Rs. 1 lakh awarded by Government of India. [[GitHub](#)]

## SERVICE

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- **ACM CCS:** PC Member, 2025-2026.
- **ACM WebConf (WWW):** PC Member, 2024-2026.
- **ACM IMC:** PC Member, 2024-2025.
- **PETS:** External Reviewer, 2022-2023. Publication Co-Chair, 2023 and 2024. PC Member, 2024-2025.
- **Georgia Tech School of Cybersecurity and Privacy:** Member, Faculty Recruiting Committee, 2022.
- **Georgia Tech School of Computer Science:** Founding Communications Chair of GSA, 2021-22 AY.