Yash Vekaria

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Research Interests

AI privacy; Agentic Navigation; Web privacy, security, transparency; Online Tracking; Ad-tech Ecosystem; Large-scale Internet Measurements; GenAI models.

Education

2021–Present **Ph.D. in Computer Science** *3.98/4.00*
University of California, Davis

2021–2023 **MS in Computer Science** *4.00/4.00*
University of California, Davis

2016–20 **B.Tech. in Computer Science** *9.04/10.00*
The LNM Institute of Information Technology (LNMIIT), India.

Publications

2025 **PixelConfig: Longitudinal Measurement and Reverse-Engineering of Meta Pixel Configurations**
Abdullah Ghani, **Yash Vekaria**, Zubair Shafiq
Under Submission, 2025

2025 **SoK: Advances and Open Problems in Web Tracking**
Yash Vekaria, Yohan Beugin, Shaoor Munir, Gunes Acar, Nataliia Bielova, Steven Engle-hardt, Umar Iqbal, Alexandros Kapravelos, Pierre Laperdrix, Nick Nikiforakis, Jason Polakis, Franziska Roesner, Zubair Shafiq, Sebastian Zimmeck
Under Submission, 2025

2025 **Multi-Stakeholder Vulnerability Notifications in the Ad-Tech Supply Chain**
Yash Vekaria, Rishab Nithyanand, Zubair Shafiq
Under Submission, 2025

ICWSM 2026 **Turning Trust to Transactions: Tracking Affiliate Marketing and FTC Compliance in YouTube's Influencer Economy**
Chen Sun, **Yash Vekaria**, Zubair Shafiq, Rishab Nithyanand
20th International AAAI Conference on Web and Social Media (ICWSM), 2026

USENIX Security 2025 **Big Help or Big Brother? Auditing Tracking, Profiling, and Personalization in Generative AI Assistants**
Yash Vekaria, Aurelio Loris Canino, Jonathan Levitsky, Alex Ciechonski, Patricia Callejo, Anna Maria Mandalari, Zubair Shafiq
34th USENIX Security Symposium, 2025
Acceptance rate: 19% (456/2400)

Sage SM+S 2025 **Auditing the Compliance and Enforcement of Twitter's Advertising Policies**
Yash Vekaria, Zubair Shafiq, Savvas Zannettou
Social Media + Society 2025 11 (1)

ACM IMC 2024	**Watching TV with the Second-Party: A First Look at Automatic Content Recognition in Smart TVs** Gianluca Anselmi*, **Yash Vekaria***, Alex D'Souza, Patricia Callejo, Anna Maria Mandalari, Zubair Shafiq (*joint first authors*) *24th ACM Internet Measurement Conference (IMC), 2024* Acceptance rate: 21.3% (54/253)
IEEE S&P 2024	**The Inventory is Dark and Full of Misinformation: Understanding the Abuse of Ad Inventory Pooling in the Ad-Tech Supply Chain** **Yash Vekaria**, Rishab Nithyanand, Zubair Shafiq *45th IEEE Symposium on Security & Privacy (Oakland), 2024* Acceptance rate: 17.8% (261/1463)
WebSci 2021	**Differential Tracking Across Topical Webpages of Indian News Media** **Yash Vekaria***, Vibhor Agarwal*, Pushkal Agarwal, Sangeeta Mahapatra, Sakthi Balan Muthiah, Nishanth Sastry, Nicolas Kourtellis (*joint first authors*) *13th ACM Web Science Conference, 2021*
ICWSM 2021	**Under the Spotlight: Web Tracking in Indian Partisan News Websites** Vibhor Agarwal*, **Yash Vekaria***, Pushkal Agarwal, Sangeeta Mahapatra, Sakthi Balan Muthiah, Nishanth Sastry, Nicolas Kourtellis (*joint first authors*) *15th International AAAI Conference on Web and Social Media (ICWSM), 2021* Acceptance rate: 22.4% (30/134)
RCIS 2021	**A Metadata-based Event Detection Method using Temporal Herding Factor and Social Synchrony on Twitter Data** Nirmal Kumar Sivaraman, Vibhor Agarwal, **Yash Vekaria**, Sakthi Balan Muthiah *15th International Conference on Research Challenges in Information Science (RCIS), 2021*

▬▬▬ Experiences

Sep 2021 – Present	**University of California, Davis** *Research Assistant, Breakerspace Lab,* *Advisor: Prof. Zubair Shafiq* Research focus is towards investigating and improving security, privacy, and transparency issues in the online tracking and advertising ecosystem through internet measurements.	**Davis, USA**
Mar 2024 – Present	**HTTP Archive** *Open Source Contributor, Privacy and Third-party Chapter* A Google-sponsored community-run project to track how the web is built. Contributed as an analyst as well as an author on both the chapters – custom-metrics repository (PR #128, #129) and alamnac.httparchive.org repository (PR #3653, #3722).	**Remote, USA**
Summer 2024	**Quantcast** *Software Engineering Intern, Modeling Platform Infrastructure Team* Developed an internal web-service to extract cookie-based and cookie-less audience segments and scoring them against Machine Learning models to understand effectiveness of ad targeting and conversion models.	**San Francisco, USA**
Summer 2022	**Max Planck Institute für Informatics** *Visiting Research Fellow, Internet Architecture Group (INET),* *Advisor: Prof. Savvas Zannettou* Research project aimed at detecting and studying the problematic advertising on Twitter to understand the compliance and violations of its advertising policies, problematic advertiser practices and effectiveness of Twitter's ad moderation strategies.	**Saarbrücken, Germany**
Jan 2020 – Aug 2021	**Innovaccer** *Data Scientist* ○ Built *ML* and *DL* models and performed *statistical data analysis* on healthcare data to improve cost and harm minimization for patients (like reduction of unnecessary imaging). ○ Worked on *healthcare data analytics*, dashboard building and data insights generation for 2 USA clientele ACO projects: *Orlando Health* (Florida) and *Dignity Health* (California). ○ Developed *automations* to streamline repetitive tasks like converting measure definition JSON files to SQL queries.	**Noida, India**

| Summer 2019 | **Innovaccer** | **Noida, India** |

Decision Science Intern

- *Improved* Innovaccer's data model by *optimizing* PostgreSQL queries, thereby reducing the overall execution time from 10 hours to 3 hours.
- Used *ML* to predict patient in-hospital revisits after discharge.

Honors & Awards

2025 Distinguished Reviewer Award *USENIX Security Symposium*
Only 23 PC members were awarded this out of 490 members in the PC.

2024 GGCS Ph.D. Fellowship *University of California, Davis, USA*
Fellowship worth $10,000 awarded by Graduate Group in Computer Science.

2023 Cybersecurity Summer Fellow *Georgia Tech, USA*
One of the 20 fellows selected from across the globe.

2016–2018 Merit Scholarships *The LNM Institute of Information Technology, India*
Awarded to Top 5% students based on GPA.

2019, 2021 Spot Awards *Innovaccer, India*
Two quarterly spot awards received: One for efficient optimization of data model from 10 hrs to 3 hrs. Second for minimizing patient costs.

Teaching

Spring 2022 Computer Networks (ECS 152A) *Teaching Assistant*
University of California, Davis, USA

Spring 2019 Data Structures & Algorithms *Teaching Assistant*
The LNM Institute of Information Technology, India

Fall 2018 Computer Organization & Architecture *Teaching Assistant*
The LNM Institute of Information Technology, India

Fall 2017 Computer Programming *Teaching Assistant*
The LNM Institute of Information Technology, India

Skills

General *Network Measurements, Computational Social Science, Data Science, Data Analytics, Data Visualization, Machine Learning, Deep Learning, Data & Text Processing, Natural Language Processing, Image Processing, Web Crawling*

Languages *Python, Golang, Flask, HTML, Javascript, SQL/PostgreSQL, NoSQL*

ML *Pandas, Numpy, Matplotlib, Scipy, PyTorch, OpenCV, BeautifulSoup*

Technologies *Spark, Aerospike, Kubernetes, Docker*

Tools *Git/GitHub, LaTeX, CI/CD, Selenium*

Leadership

Spring 2023 E-PRIME Mentor *UC Davis*
Mentored undergraduate students on research project as part of the E-PRIME (Education Partnership in Research, Inclusion and Mentoring Experiences) Mentorship Program.

Spring 2023 MANRRS Mentor *UC Davis*
Mentored newly-admitted undergraduate students about graduate life, career options, day-to-day academic challenges, etc. as part of the MANRRS (Minorities in Agriculture, Natural Resources, AND Related Sciences) DEI Mentorship Program.

Services

PC **Program Committee Member**
Privacy Enhancing Technologies Symposium (PETS) (2026)
The Web Conference (WWW) (2026)
USENIX Security Symposium (2025)
ACM Conference on Computer and Communications Security (CCS) (2024)
Workshop on Measurements, Attacks, and Defenses for the Web (MADWeb) (2024, 2026)
ACM Workshop on Artificial Intelligence and Security (AISec) (2023, 2024)
ACM Conference on Fairness, Accountability, and Transparency (FAccT) (2023)
ACM Web Science Conference (WebSci) (2023, 2024)
IEEE Conference on Sensing, Communication, and Networking (SECON) (2023)

AEC **Artifact Evaluation Committee Member**
Privacy Enhancing Technologies Symposium (PETS) (2024, 2025)
Network and Distributed System Security Symposium (NDSS) (2024)
IEEE Workshop on Offensive Technologies (WOOT) (2023)

Travel Grants

2024 *IEEE S&P (Oakland), PETS, ACM IMC*
2023 *ACM SIGMETRICS*
2022 *PETS, ACM WiSec*
2021 *IEEE S&P (Oakland) (Virtual), IEEE CSF (Virtual)*

Invited Talks

Jul 2024 **Uncovering hidden security and privacy threats in online advertising**
University College London (UCL), United Kingdom

May 2023 **Be Aware: Dark Pooling Uncovered**
AdExchanger's Programmatic I/O, MGM Las Vegas

Jul 2021 **Differential Tracking Across Topical Webpages of Indian News Media**
CMLBDA, The LNM Institute of Information Technology, India

Selected Media Coverage

Oct 2025 **AI Browsers are a Cybersecurity Time Bomb**
The Verge article by *Robert Hart*

June 2025 **Yes, Your TV Is Probably Spying on You. Your Fridge, Too. Here's What They Know.**
NY Times article by *Rachel Cericola*, *Jon Chase* and *Lee Neikirk*

Mar 2025 **Roku, Amazon, and practically every company in the streaming business are inventing new ways to make money off your data.**
Vox article by *Adam Clark Estes*

You know that generative AI browser assistant extension is probably beaming everything to the cloud, right?
The Register article by *Thomas Claburn*

Dec 2024 **Yes, Your TV Is Probably Spying on You. Your Fridge, Too. Here's What They Know.**
Medium article by *Kamal Acharya*

Nov 2024 **You think you're watching smart TV . . . In fact it's watching you**
The Times article by *Mark Sellman*

Sep 2024 **Smart TVs take snapshots of what you watch multiple times per second**
New Scientist article by *Jeremy Hsu*

Sep 2023 **Elon Musk's X is ignoring its own ad policies, a new study finds**
Fast Company article by *Chris Stokel-Walker*