

Abdul Haddi Amjad

PHD CANDIDATE · COMPUTER SCIENCE

☎ (+1) 540-449-6994 | ✉ hadiamjad@vt.edu | 🏠 people.cs.vt.edu/hadiamjad/ | 🌐 [hadiamjad](https://hadiamjad.com)

Education

Virginia Tech

Blacksburg, USA

PHD. IN COMPUTER SCIENCE AND APPLICATIONS

August 2021 - Present

- **Research:** Expert in program analysis and automated code refactoring for internet privacy and security.
- **CGPA:** 3.88/4.00
- **Advisor:** Dr. Muhammad Ali Gulzar

Virginia Tech

Blacksburg, USA

MASTERS IN COMPUTER SCIENCE AND APPLICATIONS

January 2025

- **Courses:** Software Engineering for Emerging Applications, Hot Topics in Security and AI, Network Security, Database Management Systems, Quantum Comp & Info Proc, Adv Topics Lang & Trans, Ethic & Professionalism in CS, Software Design and Quality, Statistics in Research.

FAST - NUCES

Lahore, Pakistan

B.S. IN COMPUTER SCIENCE

August 2017 - August 2021

- **CGPA:** 3.83/4.00 - Top 1% of students.
- **Award:** Magna Cum Laude
- **Undergraduate Research Advisor:** Dr. Zareen Alamgir

Research Publications

- FSE 2026** **Unintended Privacy Risks of Using Assistive Technology in Web Applications** – Abdul Haddi Amjad, Bless Jah, Muhammad Ali Gulzar, **ACM International Conference on the Foundations of Software Engineering (FSE), 2026** – under submission
- PETS 2026** **Uncovering the Usage and Privacy Risks of HTTP Custom Headers** – Abdul Haddi Amjad, Umar Iqbal, Muhammad Ali Gulzar, **Proceedings on Privacy Enhancing Technologies Symposium (PETS), 2026** – under submission
- ICSE 2025** **Accessibility Issues in Ad-Driven Web Applications** – Abdul Haddi Amjad, Muhammad Danish, Bless Jah, Muhammad Ali Gulzar, **IEEE International Conference on Software Engineering (ICSE), 2025**.
- CCS 2024** **Blocking Tracking JavaScript at the Function Granularity** – Abdul Haddi Amjad, Shaoor Munir, Zubair Shafiq, Muhammad Ali Gulzar, **ACM Conference on Computer and Communications Security (CCS), 2024**. **ACM CCS 2024 Distinguished Artifact Award**
- PETS 2023** **Blocking JavaScript without Breaking the Web: An Empirical Investigation** – Abdul Haddi Amjad, Zubair Shafiq, Muhammad Ali Gulzar, **Proceedings on Privacy Enhancing Technologies Symposium (PETS), 2023**.
- IMC 2021** **TrackerSift: Untangling Mixed Tracking and Functional Web Resources** – Abdul Hadi Amjad, Danial Saleem, Zubair Shafiq, Muhammad Ali Gulzar, **ACM Internet Measurement Conference (IMC), 2021**.

Experience

Amazon

Arizona, U.S.A

APPLIED SCIENTIST INTERN

Summer 2025

- Launched initiative to reduce inventory risks originating from high-risk external promotion channels.
- Built pipeline identifying sellers with most sales linked to externally promoted inventory.
- Collaborated with supply chain teams to block suppliers linked to risky inventory.
- Gathered visual evidence from external messages to support counterfeit and fraud enforcement efforts.

Admiral

Remote, U.S.A.

RESEARCH SCIENTIST INTERN

Jan - Aug 2025

- Developed machine learning models to detect and classify ad-blocker usage across web traffic.
- Built heuristics to distinguish between partial, full, and tracker-blocking extensions.
- Designed targeted user promotion strategies to encourage ad-unblocking and engagement.

Brave Software Inc

DATA PRIVACY RESEARCH INTERN

San Francisco, U.S.A

Summer 2023 - Return Offer

- Developed a Go-based back-end system for NFT verification for premium Brave Talk calls with unit tests.
- Created a React-based front-end system that presents the feature option exclusively to users with Solana NFTs.
- This [work](#) has been deployed in [Brave Talk](#).

Brave Software Inc

DATA PRIVACY RESEARCH INTERN

San Francisco, U.S.A

Summer 2022

- Developed a TypeScript-based Chrome extension to authenticate users using their existing login credentials.
- Implemented a feature to automatically authenticate users and include Brave Talk call links in calendar invites.
- This [work](#) has been deployed in [Brave Talk Extension](#).

Research Impact

Web Almanac Privacy Chapter

Remote

AUTHOR AND ANALYST

Edition 2024

- The Web Almanac is a comprehensive annual report on the state of the web, combining expert insights with data from nearly 17 million websites.
- I co-authored the [Web Almanac Privacy chapter](#) alongside other experts, creating an accessible resource for the web privacy community that garners nearly 10K views monthly.
- This chapter provides an in-depth analysis of online tracking mechanisms, browser privacy protections, and compliance with data protection regulations.

Privacy Violation Discovered

Remote

REPORTED PRIVACY INVASIVE JAVASCRIPTS

2024

- Using our privacy tool, I identified and reported privacy-invasive JavaScripts to [EasyList](#) authors, enhancing web privacy for over one million ad-block users. Key reports included:
 - **oe24.at (advertising.js)**: Detects ad blockers and adapts behavior, yet remains unblocked.
 - **kakaku.com (js.cookie.min.js)**: Sets tracking cookies as per the site's privacy policy, yet remains unblocked.
 - **wkrn.com (htlbid-advertising.min.js)**: Manages ad slots, lazy loading, and targeting, yet remains unblocked.
 - **foxnews.com (afpid.js)**: Collects unique identifiers like Fingerprint IDs for tracking, yet remains unblocked.

ProperData Project

Remote

RESEARCHER

2021 - Present

- [ProperData](#) is a research group at UC Irvine focused on addressing data privacy and security challenges through innovative software engineering and system design solutions.
- My research develops automated frameworks to address limitations in privacy-enhancing technologies, such as automated fault localization.

Teaching and Mentoring

Virginia Tech

Blacksburg, U.S.A

GUEST LECTURE (BIT/CS/PSCI 4164 – FUTURE OF SECURITY)

Aug 2025

- Delivered a lecture on web tracking defenses and privacy-preserving program analysis.
- Discussed modern techniques for identifying tracking behaviors and enforcing privacy guarantees.
- Engaged with students on the future of secure and privacy-aware web technologies.

Washington University in St. Louis

Remote

GUEST LECTURE (DATA-DRIVEN PRIVACY AND SECURITY COURSE)

2025

- Presented research on function-level JavaScript blocking to identify and mitigate privacy-invasive tracking scripts.
- Discussed strategies to preserve essential web functionality while enhancing user privacy.
- Engaged with students and faculty to explore advancements in web privacy technologies.

Center for the Enhancement of Engineering Diversity (CEED)

Blacksburg, U.S.A

UNDERGRADUATE STUDENT MENTOR

2024

- Supervised a minority undergraduate students collaborating with me on one of my research projects.
- Provided mentorship on research methodologies, helping one student present their work as a poster during the VT Undergraduate Poster Day.
- Co-authored a research paper with the student, incorporating their contributions; the paper (ICSE 2025) was successfully published.

CS 5774: User Interface Software

Blacksburg, U.S.A

GRADUATE TEACHING ASSISTANT

Fall 2022 - 2023

- Designed and evaluated quizzes, assignments, and final projects to assess student understanding.
- Assisted students with queries and provided feedback to improve their comprehension of course materials.
- Supported the instructor with course preparation, material management, and facilitating learning.

Educative Inc

EDUCATIVE ANSWERS TECHNICAL LEAD

Lahore, Pakistan

May 2019 - July 2021

- Developed a Python script to crawl the most searched programming questions for generating [Educative Answers](#).
- Built resource-efficient Docker environments for backend operations in multiple programming languages.
- Managed a team of 20, overseeing progress and defining deliverables.

Invited Talks

2024	IEEE Symposium on Security and Privacy , Mitigating JavaScript Tracking Functions Using Chromium V8's Generated ASTs .	San Francisco, U.S.A
2024	Google Privacy Sandbox , Exploring Opportunities for our Tool(Not.JS) to Support Google's Privacy Budgeting Initiative.	Remote
2023	Ad-Filtering Developer Summit , Demystifying the Mystery of Privacy-Invasive JS Functions .	Amsterdam
2023	ProperData Symposium , How to block tracking JavaScript functions.	Boston, U.S.A
2022	Ad-Filtering Developer Summit , What's the next era of content blockers?	Amsterdam
2022	ProperData Symposium , Mixing of JS Functions.	Irvine, U.S.A
2021	Ad-Filtering Developer Summit , How to disentangle tracking code from functional?	Remote

Honors & Awards

FELLOWSHIPS

2024-2026	Winner , John Lee Pratt Graduate Fellowship	Virginia Tech
2024-2026	Winner , Graduate Research Development Program (GRDP) Fellowship	Virginia Tech

AWARDS

2024	Winner , ACM Conference on Computer and Communications Security (CCS) Distinguished Artifact Award, 2024	Utah, U.S.A
------	-----------------------------------------------------------------------------------------------------------------	-------------

GRANTS

2024	Travel Grant , IEEE Symposium on Security and Privacy	San Francisco, U.S.A
2024	Travel Grant , ACM Conference on Computer and Communications Security	Utah, U.S.A
2023	Travel Grant , Proceedings on Privacy Enhancing Technologies Symposium	Lausanne, CH

References

Advisor	Muhammad Ali Gulzar , Assistant Professor at Virginia Tech	gulzar@cs.vt.edu
Collab	Zubair Shafiq , Associate Professor at UC, Davis	zubair@ucdavis.edu
Manager	Dhruv Kuchhal , Sr. Security Researcher at Amazon	dkuchhal@amazon.com
Manager	Igor Bilogrevic , Staff Research Scientist at Google	ibilogrevic@google.com
Manager	Marshall Rose , Principal Research Scientist at Brave	mrose@brave.com