

Umar Iqbal

Research Interests

Online Advertising; Online Tracking; Privacy; Security; Usability.

Education

2016–present **Ph.D. in Computer Science**

Advisor: Prof. Zubair Shafiq
The University of Iowa

2009–2013 **B.S. in Computer Science**

National University of Computer & Emerging Sciences (NUCES), Pakistan.

Publications

- S&P **AdGraph: In-Browser Machine Learning Approach to Effective Adblocking**
Umar Iqbal, Peter Snyder, Shitong Zhu, Benjamin Livshits, Zhiyun Qian, Zubair Shafiq
IEEE Symposium on Security and Privacy, San Francisco, 2020
- WWW **ShadowBlock: A Lightweight and Stealthy Adblocking Browser**
Shitong Zhu, Umar Iqbal, Zhongjie Wang, Zhiyun Qian, Zubair Shafiq, Weiteng Cheng
The Web Conference, San Francisco, 2019
Acceptance rate: 225/1247=18%
- IMC **The Ad Wars: Retrospective Measurement and Analysis of Anti-Adblock Filter Lists**
Umar Iqbal, Zubair Shafiq, Zhiyun Qian
ACM Internet Measurement Conference, London, 2017
Acceptance rate: 42/179=23.5%
- DSN **Malware Slums: Measurement and Analysis of Malware on Traffic Exchanges**
Salman Yousef, Umar Iqbal, Shehroze Farooqi, Raza Ahmad, Zubair Shafiq, Fareed Zaffar
IEEE/IFIP International Conference on Dependable Systems and Networks, France, 2016
Acceptance rate: 58/259 =22.4%

Experience

- 2016–present **Internet Research Lab, The University of Iowa**
Research Assistant
- 2019 **Mozilla Corporation**
Privacy Research Intern
- 2018 **Brave Software**
Research Intern
- 2017 **Microsoft Corporation**
Program Manager Intern
- 2016 **Systems and Security Group, LUMS, Pakistan**
Research Assistant
- 2013–2016 **LMKT Corporation, Pakistan**
Solution Analyst

Projects

Brave (2018) **Chromium Instrumentation**

I instrumented Chromium to capture the rendering of a webpage. Specifically, I instrumented element creation, modification, removal, script execution, script compilation, and network requests initiation. The instrumentation provides sequence of rendering events for a webpage which can be generalized to a variety of problems.

Microsoft **Adblock Landscape**

(2017) I wrote a technical report describing the current landscape of ad and tracker blockers. In light of developments around adblocking the report outlined how and what an adblocker for Microsoft Edge would look like.

LMKT **PTCL Smartlink, V- Govern, and RAFM**

(2013-2016) As a solution analyst at LMKT Corporation, I worked on a number of projects. The most prominent projects were:

PTCL Smartlink – A mobile app for calling and instant messaging. It was packaged for PTCL (Pakistan Telecommunication Company Limited).

V- Govern – An e-governance solution. I added search functionality to the product with configurable similarity models.

RAFM (Revenue Assurance and Fraud management) – A reporting dashboard. It provided near real time data analytics to monitor revenue and fraud critical situations by processing over one billion CDRs on daily basis.

Honors & Awards

2019 **Graduate College Post-Comprehensive Research Fellowship**

2019 **Graduate Student Senate/Graduate College Presentation Grant**

2017 **ACM Internet Measurement Conference Student Grant**

2016 **IEEE Conference on Communications and Network Security Student Grant**

2016 **USENIX Security Symposium Student Grant**

2016 **Winner PeaceTech Exchange**

2013,2012 **Dean's List of Honor**

Teaching

CS 4980 **Online Advertising & Tracking**

Fall 2019, University of Iowa

Undergraduate Student Research Advising

2019- **Charlie Wolfe**

The University of Iowa

Talks

Invited **AdGraph: A Graph-Based Approach to Ad and Tracker Blocking**

Adblock Developer Summit, September 2019

Intern Talk **Machine Learning For Detecting Fingerprinting Scripts**

Mozilla Corporation, August 2019

Invited **An Overview of Ad and Tracker Blocking**

Mozilla Security Research Summit, May 2019

Services

Invited **Invited to Review a Paper**

Reviewer International Symposium on Research in Attacks, Intrusions and Defenses (RAID 2019)

Grant **Student Travel Grant Review Committee Member**
Reviewer Graduate & Professional Student Government, The University of Iowa, 2018-19
Program **Shadow Program Committee Member**
Committee ACM Internet Measurement Conference, 2017

References

Prof. Zubair Shafiq

Assistant Professor, The University of Iowa, zubair-shafiq@uiowa.edu

Steven Englehardt

Privacy Engineer, Mozilla Firefox, senglehardt@mozilla.com

Prof. Ben Livshits

Associate Professor, Imperial College London
Chief Scientist, Brave Browser, ben@brave.com

John Hazen

Principal Group Program Manager, Microsoft Edge, john.hazen@microsoft.com