

Rahul Chatterjee

rahul.chatterjee@wisc.edu
<https://www.cs.wisc.edu/~chatterjee/>
1210 W Dayton St, Madison, WI 53706

CURRENT POSITION

Assistant Professor, Computer Sciences, University of Wisconsin–Madison.

RESEARCH INTERESTS

Computer security and privacy: Building provably secure systems that are usable and human friendly. Interests include passwords, biometrics, digital safety, applied cryptography, and privacy.

EDUCATION

Cornell University Ithaca, NY
PhD, Computer Science August 2015 - August 2019
Advisor: Thomas Ristenpart
Thesis: “Next Generation Password-Based Authentication Systems”

University of Wisconsin–Madison Madison, WI
Masters, Computer Sciences August 2013 - May 2015

Indian Institute of Technology, Kharagpur Kharagpur, West Bengal
Bachelor of Technology, Computer Science and Engineering July 2008 - June 2012
Advisor: Sudeshna Sarkar
Thesis: “Sentence Fluency Improvement using Monolingual Corpus”

SELECTED PUBLICATIONS

- [1] Rahul Chatterjee, M. Sadegh Riazi, Tanmoy Chowdhury, Emanuela Marasco, Farinaz Koushanfar, Ari Juels. “Multisketches: Practical Secure Sketches Using Off-the-Shelf Biometric Matching Algorithms.” *ACM CCS, 2019*
- [2] Lucy Li, Bijeeta Pal, Junade Ali, Nick Sullivan, Rahul Chatterjee, Thomas Ristenpart. “Protocols for Checking Compromised Credentials.” *ACM CCS, 2019*
- [3] Diana Freed, Sam Havron, Emily Tseng, Andrea Gallardo, Rahul Chatterjee, Thomas Ristenpart, Nicola Dell. ““Is my phone hacked?” Analyzing Clinical Computer Security Interventions with Survivors of Intimate Partner Violence.” *ACM CSCW, 2019*
- [4] Sam Havron, Diana Freed, Rahul Chatterjee, Damon McCoy, Nicola Dell, Thomas Ristenpart, “Clinical Computer Security for Victims of Intimate Partner Violence.” *28th USENIX Security Symposium, 2019*
- [5] Bijeeta Pal, Tal Daniel, Rahul Chatterjee, Thomas Ristenpart, “Beyond Credential Stuffing: Password Similarity Models using Neural Networks.” *40th IEEE Symposium on Security and Privacy, 2019*
- [6] Rahul Chatterjee, Periwinkle Doerfler, Hadas Orgad, Sam Havron, Jackeline Palmer, Diana Freed, Karen Levy, Nicola Dell, Damon McCoy, Thomas Ristenpart, “The Spyware Used in Intimate Partner Violence.” *39th IEEE Symposium on Security and Privacy 2018*
- [7] Rahul Chatterjee, Joanne Woodage, Yual Pnueli, Anusha Chowdhury, Thomas Ristenpart, “The TypTop System: Personalized Typo-Tolerant Password Checking.” *ACM CCS, 2017*
- [8] Joanne Woodage, Rahul Chatterjee, Yevgeniy Dodis, Ari Juels, and Thomas Ristenpart, “A New Distribution-Sensitive Secure Sketch and Popularity-Proportional Hashing.” *Crypto 2017*
- [9] Rahul Chatterjee, Anish Athalye, Devdatta Akhawe, Ari Juels, Thomas Ristenpart, “pASSWORD tYPOS and How to Correct Them Securely.” *37th IEEE Symposium on Security and Privacy 2016. Distinguished Student Paper*
- [10] Adam Everspaugh, Rahul Chatterjee, Samuel Scott, Ari Juels, Thomas Ristenpart, “The Pythia PRF Service.” *USENIX Security 2015*
- [11] Rahul Chatterjee, Joseph Bonneau, Ari Juels, Thomas Ristenpart, “Cracking-Resistant Password Vaults using Natural Language Encoders.” *36th IEEE Symposium on Security and Privacy 2015*

EMPLOYMENT

University of Wisconsin–Madison Assistant Professor	Madison, WI Aug 2019 - present
Cornell University Graduate research assistant	New York, USA Aug 2015 - Aug 2019
Dropbox Research Intern.	San Francisco, USA Summer 2016
Microsoft Research Technologies Research Intern	Redmond, USA Summer 2015
University of Wisconsin-Madison Graduate research assistant	Madison, USA Aug 2013 - May 2015
Two Roads Technological Solutions Pvt. Ltd. Software developer and quantitative analyst	Bangalore, India June 2012 - June 2013
Indian Institute of Technology, Kharagpur Undergraduate research assistant	Kharagpur, India Sept 2010 - Mar 2012
Adobe Systems India Intern	Noida, India Summer 2011

TEACHING

Instructor

- Introduction to Information Security Fall, 2019

Teaching assistant

- Building Startup Systems (by Adam Fleming) Fall, 2017
- Applied Cryptography (by Prof. Thomas Ristenpart) Spring, 2016
- Introduction to AI (by Prof. Bart Selman) Fall, 2015
- Introduction to Cryptography (by Prof. Somesh Jha) Fall, 2014
- C++ for Java Programmers (by Jim Skrentny) Fall, 2013

INVITED TALKS

- *University of Waterloo*, “Empiricism-Informed Secure System Design: From Improving Passwords to Helping Domestic Violence Victims.”, Apr 2019
- *UW–Madison*, “Empiricism-Informed Secure System Design: From Improving Passwords to Helping Domestic Violence Victims.”, Mar 2019
- *IMDEA Software Institute*, “Empiricism-Informed Secure System Design: From Improving Passwords to Helping Domestic Violence Victims.”, Mar 2019
- *ETH*, “Empiricism-Informed Secure System Design: From Improving Passwords to Helping Domestic Violence Victims.”, Mar 2019
- *Georgetown University*, “Empiricism-Informed Secure System Design: From Improving Passwords to Helping Domestic Violence Victims.”, Mar 2019
- *Penn State University*, “Empiricism-Informed Secure System Design: From Improving Passwords to Helping Domestic Violence Victims.”, Mar 2019
- *USC*, “Empiricism-Informed Secure System Design: From Improving Passwords to Helping Domestic Violence Victims.”, Mar 2019
- *Oregon State University*, “Empiricism-Informed Secure System Design: From Improving Passwords to Helping Domestic Violence Victims.”, Feb 2019
- *UCLA*, “Empiricism-Informed Secure System Design: From Improving Passwords to Helping Domestic Violence Victims.”, Feb 2019
- *CISPA Helmholtz Center*, “Empiricism-Informed Secure System Design: From Improving Passwords to Helping Domestic Violence Victims.”, Feb 2018
- *Cyber Sexual Abuse Task Force*, “The Spyware Used in Intimate Partner Violence”, June 2018
- *IIT Kharagpur*, “Next-Gen Passwords”, January 2018
- *NSF Cybersecurity TTP Workshop*, “Improving Security by Tolerating Password Typos”, April 2017
- *Dropbox*, “PASSWORD tYPOS and How to Correct Them Securely”, July 2016

IMPACT

- Improved security of vulnerable Cornell accounts identified in [5].

- Pythia [10] is being used in industry for hardening passwords.
- Based on our study [6], Google stopped serving advertisements on search terms relating to intimate partner violence and increased enforcement of Play Store policies.

ACADEMIC
ACHIEVEMENTS,
AWARDS AND
SCHOLARSHIPS

- Distinguished student paper award for [9] at IEEE S&P. May, 2016
- Received *special CS fellowship* from UW–Madison. August, 2013
- Secured 4th rank ACM-ICPC regional contest North Central region. Nov, 2013
- Received IMPRS-CS fellowship for MS at MPI-Informatics, Saarbrücken. Aug 2012
- Jagadish Bose National Science Talent Search(JBNSTS) scholarship. 2008-2012.
- Selected for Indian National Mathematics Olympiad (INMO) in 2007.

EXTRA
CURRICULAR
ACTIVITIES

- Board member of PhD student association at Cornell Tech (PACT).
- Member of executive committee of Bengali Association of Madison (BAM), WI in 2014-15. BAM organizes lots of Indian cultural events in Madison, WI.
- Captain of mathematics Olympiad team of my residence hall and won silver and gold in Inter Hall Mathematics Olympiad in 2011 and 2012, respectively.