

Xiaoyuan Wu

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Education

Carnegie Mellon University, Pittsburgh PA

Ph.D. Societal Computing

August 2022 - Present

Advisor: Professor Lujo Bauer

George Washington University, Washington D.C.

Bachelor of Science, Double Major in Computer Science and Mathematics

August 2018 - May 2022

GPA: 3.76/4.0

Advisor: Professor Adam J. Aviv

Publication

Xiaoyuan Wu, Collins W. Munyendo, Eddie Cosic, Genevieve A. Flynn, Olivia Legault and Adam J. Aviv. Users Perceptions of Five-Word Passwords. Conditionally accepted to 2022 Annual Computer Security Applications Conference (ACSAC 2022). December 2022.

- Studying user perceptions of passwords that constitutes five commonly used words through a two-part survey. Measuring participants' general password habits, how do they remember five-word passwords as well as their thoughts on the usability and security of five-word passwords.
- **Contributions:** Designed survey questions with three different treatments on generating the five-word password, developed an online survey using the SurveyJS library, constructed the database for transferring and storing survey data with Django and MySQL as well as distributing the survey through Prolific.

David G. Balash, **Xiaoyuan Wu**, Miles Grant, Irwin Reyes and Adam J. Aviv. Security and Privacy Perceptions of Third-Party Application Access for Google Accounts. 31st USENIX Security Symposium (USENIX Security 22). August 2022.

- Measured users' awareness and perceptions of third-party apps gaining access to their information through Google's application programming interface(API) through a two-part survey and a browser extension.
- **Contributions:** Developed a custom browser extension to extract and measure Google API and Single Sign-On authorizations of participants in an online survey. Designed and developed an online survey using the SurveyJS library to interact via messaging with the custom browser extension. Analyzed the data obtained from the browser extension along with the survey results and co-authored a peer-reviewed publication.

Work in Progress

David G. Balash, **Xiaoyuan Wu**, Mir Masood Ali, Chris Kanich and Adam J. Aviv. Longitudinal Analysis of Privacy Labels in the Apple App Store. Submission planned to the 2023 The Network and Distributed System Security (NDSS) Symposium. February 2023.

- Collecting all privacy "nutrition label" for every app on the Apple App Store each week through custom automated programs. Performing data analysis of the collected privacy information including aggregation, statistical comparisons between apps, and measurements of change over time.
- **Contributions:** Data visualization and analysis using Jupyter Notebook mainly with pandas and matplotlib libraries. Designing and developing website visualizations to present the aggregated privacy label information to the public.

Capstone Project

Xiaoyuan Wu, Alexander Li, Ye Li, Yifei Song. Terms and Conditions Shortener.

- Through a browser extension, aiming to help users understand terms and conditions documents with the assistance of Natural Language Processing(NLP).

Skills

Languages: Python, C, Java, SQL, L^AT_EX, Pascal.

Web Development: HTML, CSS, JavaScript, PHP, browser extensions.

Applications: Visual Studio, Docker Container, Jupyter Notebook, MySQL, Git.

Development Tools: SurveyJS, Django, Pandas, Matplotlib.