# **ANHAO XIANG** (he/him/his)

Tenure-Track Assistant Professor of Information Technology, Kennesaw State University, Marietta, GA 30060

axiang@kennesaw.edu | LinkedIn | Google Scholar |

## EDUCATION AND CERTIFICATION

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| **Ph.D. in** Computer Science**,** Colorado School of Mines (MINES), USA | 12/2025 |
| **M.S. in** Computer Science**,** New Mexico Institute of Mining and Technology (NMT), USA | 12/2021 |
| **B.S. in** Computer Science, New Mexico Institute of Mining and Technology (NMT), USA | 05/2020 |
| **Graduate Certificate in Cybersecurity**, NMT | 12/2021 |
| **Offensive Security Certified Professional (OSCP)**, OffSec | 04/2021 |
| **Security+ SY0-601**, CompTIA (expired, currently renewing) | 07/2021 |

## WORK EXPERIENCE

**Tenure-Track Assistant Professor in Information Technology,** Kennesaw State University (KSU) 1/5/2026-Present

## HIGHLIGHTED RESEARCH PROJECTS

- **Analyzing the feasibility of adopting CSP on The Web (accepted at IEEE/ACM ICSE 2025, second author)**
  Content Security Policy (CSP) is a key security mechanism designed to mitigate injection attacks like XSS. In this project, we developed an automated crawling tool to assess adoption of Google's four nonce-based CSP solutions across the top 10K websites. Our analysis demonstrated that most websites could feasibly adopt nonce-based CSPs. We further analyzed adoption challenges, and provided recommendations to help developers strengthen their websites against injection attacks.
- **Exploring additional dimensions on the Adoption of CSP (accepted at IEEE S&P Magazine 2025, first author)**
  This article builds on the ICSE 2025 study by exploring additional dimensions, particularly developers' perspectives on the adoption of nonce-based CSP solutions, and the applicability of these solutions to websites with diverse architectures and development frameworks. We also explored the LLMs' support for adopting nonce-based CSP solutions.
- **Analyzing the GDPR compliance of mobile apps' privacy policies (accepted at ACM CCS 2023, first author)**
  In this project, we investigated the GDPR compliance of mobile apps' privacy policies. We designed the NLP framework PolicyChecker by taking a rule and semantic role based approach. Using PolicyChecker, we conducted the first large-scale analysis of mobile app privacy policies and found that 99.3% violated at least one requirement. Our analysis further revealed root causes related to developers' limited understanding of GDPR and the widespread reliance on policy generators.
- **Investigating health and fitness app users' privacy risks (accepted at ACM HEALTH 2026, first author)**
  In this project, we investigated the cross-app data sharing implications of an on-device centralized platform that allows users to store various types of health data and share them across apps. We found that health apps can broadly and intensively share data with each other but often fail to adequately disclose their practices. We also found that most users have a limited understanding of the platform's permission model and its implicit cross-app data sharing implications.
- **Investigating app privacy transparency designs (Under review in ACM TOPS, first author)**
  With growing emphasis on privacy transparency under regulations such as GDPR, mobile app users now encounter multiple sources describing apps' privacy practices. In this project, we conducted an interaction study to examine the effectiveness of different transparency designs on users' understanding. Our findings show that while all methods improved participants' comprehension and heightened their concerns about privacy risks, each approach carried distinct strengths and limitations.

## PUBLICATIONS

[1] **Anhao Xiang**, Weiping Pei, Madelyn Swelstad, Andrew Plute, and Chuan Yue. "Investigating the Health Data Sharing Implications." *ACM Transactions on Computing for Healthcare* (***HEALTH***), 2026.

[2] Mengxia Ren, **Anhao Xiang**, and Chuan Yue. "Analyzing the Feasibility of Adopting Google's Nonce-Based CSP Solutions on Websites" in *IEEE/ACM International Conference on Software Engineering (**ICSE**)*, 2025.

[3] **Anhao Xiang,** Mengxia Ren, Chuan Yue, James Crea, Jack Kingham, and Zachary Samuels "Toward Practical and Scalable Adoption of Nonce-Based Content Security Policy on the Web." *IEEE Security & Privacy Magazine (**SPM**)*, 2025.

[4] **Anhao Xiang**, Weiping Pei, and Chuan Yue. "PolicyChecker: Analyzing the GDPR Completeness of Mobile Apps' Privacy Policies." in proceedings of the *ACM Conference on Computer and Communications Security (**CCS**)*, 2023.

[5] **Anhao Xiang**, and Jun Zheng. "A Lightweight Anonymous Device Authentication Scheme for Information-Centric Distribution Feeder Microgrid." ***Computers, Materials & Continua,*** 2021.

[6] **Anhao Xiang**, and Jun Zheng. "A situation-aware scheme for efficient device authentication in smart grid-enabled home area networks." ***Electronics*****,** 2020.

**Under Review**

[7] **Anhao Xiang**, Weiping Pei, and Chuan Yue. "Investigating the Effectiveness of Privacy Transparency Methods of Mobile Applications," under review in *ACM Transactions on Privacy and Security* (***TOPS***), 2025.

## TEACHING AND STUDENT ADVISING EXPERIENCE

**Teaching**

- **Instructor** for IT7743 Database Administration, KSU, Spring 2026.
- **Lab Developer** for CSCI585 Information Security and Privacy, MINES, Fall 2025.
  Developed a password storage via secret-sharing lab for the Information Security and Privacy course.
  Developed a password strength lab for the Information Security and Privacy course.
- **Teaching Assistant** of CSCI474/574 Introduction to Cryptography/Theory of Cryptography, MINES, Spring 2023 and Spring 2025.
  Assisted the instructor in preparing instructional materials for cryptography labs, graded assignments and assisted students.
- **Teaching Assistant** of CSCI585 Information Security and Privacy, MINES, Fall 2022.
  Graded assignments and the final exam, and assisted students with security lab exercises and homework assignments.
- **Teaching Assistant** of Introduction to Database Systems, NMT, Spring 2021.
  Graded assignments and the final course project, and assisted students with learning core database concepts.
- **Teaching Assistant** of Introduction to Computer Network, NMT, Fall 2019.
  Graded assignments and labs, and assisted students with network concepts and using tools such as Wireshark.

**Student Advising**

- Help advised undergraduate student Andrew Plute for a project on digital identify verification, Summer and Fall 2025.
- Help advised undergraduate students Madelyn Swelstad and Andrew Plute for a project on mobile app user privacy, Fall 2024 and Spring 2025.
- Help advised undergraduate students Lucas Bowar and Brooke Bowcutt for a project on app privacy policy analysis, Fall 2022.
- Help advised a group of high school students including Andrew Plute, Vincent Nguyen, Alexander Bieniek, etc. in MINES DoD CySP Cyber-REACH 2022 Summer Research Camp.

## PROFESSIONAL ACTIVITIES

**Public Presentation**

- "Analyzing the Feasibility of Adopting Google's Nonce-Based CSP Solutions on Websites", Conference presentation at IEEE/ACM ICSE, May 2025.
- "PolicyChecker: Analyzing the GDPR Completeness of Mobile Apps' Privacy Policies.", Conference presentation at ACM CCS 2023, December 2023.
- Poster Presentations at Computing Mines Affiliates Partnership Program (C-MAPP) Award Event in 2024 and 2025.

**Invited Guest Talk/Lecture**

- Guest talk on Toward Better Security and Privacy for Web and Mobile Users for Mines C4G program high school students, July 2025.
- Guest lectures on SQL Injection Attacks and Defenses in the CSCI 403 Database Management class, MINES, March 2022.

**University Service**

- Served as an observer (i.e., competition official) for the Mines team in the Rocky Mountain Collegiate Cyber Defense Competition (RMCCDC), March 2025.
- Served as a white-team member (i.e., competition official) for the Mines team in the RMCCDC, March 2022.

**Conference Reviewer**

- EMNLP 2022, IEEE TPS 2022, CODASPY 2023, IEEE TPS 2023, IEEE ICCCN 2026