
ABRAR S. ALRUMAYH, Ph.D.

Temple University

Computer and Information Sciences

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RESEARCH INTERESTS

My primary research interest is in **usability, security and privacy of audio-based systems**. Within this area, I currently have three main projects: improving privacy leaks detection from third-party applications, applying machine learning classification to support richer access control rules, and improving system intractability through system testing and usability. I am also interested in **smart health** systems to support telemedicine and in-home monitoring.

EDUCATION

Ph.D. in Computer Science

Temple University, Philadelphia, PA

Thesis title: “Improving the Usability, Privacy, and Context-Awareness of Audio-Based Systems”

Advisor: Chiu C. Tan

Aug. 2016 – Present

GPA: 3.87 / 4

M.S. in Computer Science

Saint Joseph’s University, Philadelphia, PA

May. 2015

GPA: 3.90 / 4

B.S. in Computer Science and Information Systems

Imam Mohammad Bin Saud University, Riyadh, Saudi Arabia

February. 2011

GPA: 4.52 / 5

EMPLOYMENT

- **Lecturer** Jan. 2016 – Aug. 2016
Al Yamamah university, Riyadh, Saudi Arabia
- **Teaching Assistant** Jan. 2015 – June. 2015
Saint Joseph’s University, Philadelphia, Pennsylvania, USA
- **Service Administration** Jan. 2013 – June. 2013
Saint Joseph’s University, Philadelphia, Pennsylvania, USA
- **Database Developer** May. 2010 – Aug. 2010
Technical and Vocational Training Corporation, Riyadh, Saudi Arabia

AWARDS

- **Doctoral Dissertation Completion Grant** Spring 2022
Temple CIS, Philadelphia, PA

- **Grace Hopper Conference (GHC) Scholar** May. 2020
Temple CIS, Philadelphia, PA
- **Grace Hopper Conference (GHC) Scholar** May. 2019
AnitaB.org, Palo Alto, CA
- **Scholarship Program** Aug. 2016 – Aug. 2021
The Department of Higher Education, Riyadh, Saudi Arabia
- **Upsilon Pi Epsilon (UPE)** March. 2015
International Honor Society for the Computing and Information Disciplines.
- **King Abdullah Scholarship Program (KASP)** May. 2011 – May. 2015
Ministry of Education (MOE), Riyadh, Saudi Arabia
- **Second class honor degree** Feb. 2011
AL Imam Mohammad Bin Saud University, Riyadh, Saudi Arabia

PUBLICATIONS

- Sarah M. Lehman, **Abrar S. Alrumayh**, Kunal Kolhe, Haibin Ling, and Chiu C. Tan. "Hidden in Plain Sight: Exploring Privacy Risks of Mobile Augmented Reality Applications". (*under submission*)
- **Abrar S. Alrumayh**, and Chiu C. Tan. "VORI: A Framework for Testing Voice User Interface Intractability". (*under submission*)
- **Abrar S. Alrumayh**, and Chiu C. Tan. "HomeSmartPrompt: Improving Home Smart Speaker Reminder Apps". (*under submission*)
- **Alrumayh, Abrar S.**, Sarah M. Lehman, and Chiu C. Tan. "Understanding and Mitigating Privacy Leaks from Third-Party Smart Speaker Apps." 2021 IEEE Conference on Communications and Network Security (CNS). IEEE, 2021.
- **Alrumayh, Abrar S.***, Sarah M. Lehman, and Chiu C. Tan. "Emerging mobile apps: challenges and open problems." CCF Transactions on Pervasive Computing and Interaction (2021).
- **Alrumayh, Abrar S.**, Sarah M. Lehman, and Chiu C. Tan. "Context Aware Access Control for Home Voice Assistant in Multi-occupant Homes." *Pervasive and Mobile Computing* (PMC' 20). 2020.

- **Abrar S. Alrumayh**, and Chiu C. Tan. “Supporting Home Quarantine with Smart Speakers”. Proceedings of Deep Learning for Wellbeing Applications Leveraging Mobile Devices and Edge Computing (HealthDL ’20). ACM, 2020.
- Sarah M. Lehman, **Abrar S. Alrumayh**, Haibin Ling, and Chiu C. Tan. “Stealthy Privacy Attacks Against Mobile AR Apps.” Proceedings of the 6th International Workshop on Security and Privacy in the Cloud (SPC). IEEE, 2020.
- **Alrumayh, Abrar S.**, Sarah M. Lehman, and Chiu C. Tan. "ABACUS: audio based access control utility for smarthomes." *Proceedings of the 4th ACM/IEEE Symposium on Edge Computing*. ACM, 2019.

TEACHING

Lecturer, Al Yamamah university:

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|------------------------------------------------------------|-------------|
| • CIS 102 - Programming Fundamentals II | Summer 2016 |
| • CMP 001 - Computer Skills I | Summer 2016 |
| • CMP 002 - Computer Skills II | Summer 2016 |
| • MIS 102 - Intro to Management Information Systems | Summer 2016 |
| • CIS 382 - Security Policies and Procedures | Spring 2016 |
| • CIS 301 - Object Oriented Modeling | Spring 2016 |
| • CIS 101 - Programming Fundamentals I | Spring 2016 |
| • MIS 312 - Database Management | Spring 2016 |

Teaching Assistant, Saint Joseph’s University

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|-----------------------------------------------|-------------|
| • CSC 627 - Intro to Computer Security | Spring 2015 |
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TALKS

- **Understanding and Mitigating Privacy Leaks from Third-Party Smart Speaker Apps**, paper presentation at IEEE Conference on Communications and Network Security (CNS). October 2021.
- **Supporting Home Quarantine with Smart Speakers**, paper presentation at Deep Learning for Wellbeing Applications Leveraging Mobile Devices and Edge Computing (HealthDL). June 2020.
- **ABACUS: audio based access control utility for smarthomes**, paper presentation at the fourth ACM/IEEE Symposium on Edge Computing. September 2019.

PROFESSIONAL ACTIVITIES

- **Technical Program Committee**

IEEE International Conference on Pervasive Computing and Communications (Percom),
2020

Mentoring

Capstone, Al Yamamah University:

- Eman Brudil Summer 2016
- Fatimah Alrubh Summer 2016
- Sarah Dakheel Spring 2016
- Reem Almutairi Spring 2016
- Nura Almosa Spring 2016

Master Project, Al Yamamah University:

- Ghada Saif Spring 2016
- Jawhra Shaikh Spring 2016