

REHAM MOHAMED ABURAS

ESB 2070, American University of Sharjah, Sharjah, UAE

raburas@aus.edu ◇ **Portfolio:** rehammaburas.github.io ◇ +971(55) 362-7822

QUALIFICATIONS SUMMARY

Assistant professor in the Computer Science and Engineering department at the American University of Sharjah (AUS), with recognized experience in **Mobile Computing** and **Security and Privacy**. My research focuses on the advancement of usable security and privacy of emerging technologies by combining system design, machine learning, signal processing techniques, and user studies.

EDUCATION

Purdue University Ph.D. Student in Computer Science	Aug 2018 - July 2024
Alexandria University, Egypt M.Sc. in Computer Engineering	Feb 2014 - Feb 2018
Alexandria University, Egypt B.S.E in Computer and Systems Engineering	Sep 2008 - July 2013

RESEARCH AND PROFESSIONAL EXPERIENCE

Assistant Professor - CSE, American University of Sharjah	Aug 2024 - Present
Research Assistant - Purdue University <ul style="list-style-type: none">• Side-channel attacks in smart devices.• Investigating dark patterns in tracking permission.• Enhancing MR/VR Security and Privacy.	Aug 2018 - July 2024
Software R&D Engineer - Avelabs, Egypt <ul style="list-style-type: none">• Developed new techniques for automotive technology.• Applied different ML algorithms for environmental audio detection and classification.	Dec 2017 - Jul 2018
Research Assistant - Wireless Research Center, Egypt <ul style="list-style-type: none">• Designed a personalized healthcare system to monitor vital signals using smartphone sensors.• Contributed to an industrial research project for practical indoor localization by mobile sensors.• Worked on an <i>industrial research</i> project for traffic estimation in developing countries. Designed an HMM-based Map-Matcher for coarse-grained cellular locations. Designed a transportation mode detector using inertial smartphone sensors.• Developed an indoor localization system based on SLAM (Simultaneous Localization And Mapping) probabilistic framework and semantic landmarks detection.	July 2013 - February 2017
Undergrad Research Internship - Alexandria University, Egypt <ul style="list-style-type: none">• Developed a device-free localization system by applying statistical models on the physical layer information of WiFi networks.	Jul 2012 - Oct 2012

AWARDS AND HONORS

- Faculty Startup Grant, American University of Sharjah (2025)
- VehicleSec Symposium (Co-located with NDSS) student travel grant (2024)
- Ross Fellowship Award, awarded for recognized academic excellence (2018)
- Graduation Distinction with the Degree of Honor (Bachelor of Engineering) (2013)

STUDENT RESEARCH ADVISING

Alaa Elkouni	M.S. CSE, American University of Sharjah	2024-Present
Alizar Farhan	M.S. CSE, American University of Sharjah	2024-Present
Bashar Adar	B.S. CSE, American University of Sharjah	2024-Present
Derin Cayir	Ph.D. CS, Florida International University	2024-Present
Chandrika Mukherjee	M.S. CS, Purdue University → Ph.D., Purdue University	2022-Present
Xueyuan Cao	B.S. CS, Purdue University	2022-2024
Abhishek Shah	M.S. CS, Purdue University → Amazon	Summer 2022
Jason Perry	B.S. CS, Purdue University → Google	2020-2022
Yidong Lu	Internship in CS, Purdue University	Summer 2019

PROFESSIONAL ACTIVITIES

Program Committee Member

- ACM CCS 2024
- SafeThings workshop co-located with IEEE S&P, 2024

Reviewer

- IEEE Transactions on Information Forensics and Security, 2024
- IEEE Internet of Things Journal, 2023-2024
- IEEE Transactions on Mobile Computing (TMC), 2021
- ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), 2021

External Reviewer

- Network and Distributed System Security (NDSS), 2021-2023
- USENIX Security Symposium, 2021-2023
- ACM Conference on Computer and Communications Security (CCS), 2021-2023

Talks and Guest Lectures

- CS390 Great Issues in Computer Science at Purdue University (Fall 2023)
Topic: Virtual and Augmented Reality Technologies.
- Alexandria CSE Research Meetings at Alexandria University (2013)
Topic: Mono-stream-based Device-free WLAN Localization.
- Google Ambassadors Event for Enriching Arabic Electronic Content, Alexandria Bibliotheca (2013)
Topic: Arabic Question Answering for the Holy Quran.

TEACHING EXPERIENCE

Course Instructor - American University of Sharjah

Aug 2024 - Present

- COE59412: Usable Security and Privacy. [Spring 2025]
- CMP340: Design-Analysis of Algorithms. [Fall 2024, Spring 2025]

- CS390: Great Issues in Computer Science. **[Fall 2023]**
- CS176: Data Engineering in Python. **[Fall 2020]**
- CS176: Data Engineering in Python (*Course Development*) **[Summer 2020]**
- CS373: Data Mining and Machine Learning. **[Spring 2020]**
- CS573: Data Mining (*Graduate Level*). **[Fall 2019]**

- Probability Theory. **[Spring 2015-2018]**
- Digital Computer Fundamentals. **[Spring 2015-2018]**
- Data Mining. **[Fall 2015, Fall 2017]**
- Statistics. **[Fall 2015-2017]**
- Introduction to Computer Science. **[Fall 2014-2017]**
- Mathematics for Computer Science. **[Fall 2014]**
- Digital Signal Processing. **[Fall 2014]**

Lab Instructor

- Distributed Systems. **[Spring 2017-2018]**
- Systems Programming. **[Fall 2015-2016]**
- Control Systems. **[Fall 2015-Fall 2016]**
- Database Systems. **[Fall 2016]**
- Data Structures I. **[Spring 2014]**
- Computer Vision. **[Spring 2014]**

PUBLICATIONS

* Conference Publications

C9 Chandrika Mukherjee, **Reham Mohamed**, Arjun Arunasalam, Habiba Farrukh, and Z. Berkay Celik
Shadowed Realities: An Investigation of UI Attacks in WebXR
Proceedings of the USENIX Security Symposium, 2025.

C8 Derin Cayir, **Reham Mohamed**, Z. Berkay Celik and Selcuk Uluagac
Speak Up, I'm Listening: Extracting Speech from Zero-Permission VR Sensors
NDSS, 2025.

C7 **Reham Mohamed**, Arjun Arunasalam, Habiba Farrukh, Jason Tong, Antonio Bianchi, and Z. Berkay Celik
ATTention Please! An Investigation of the App Tracking Transparency Permission
Proceedings of the USENIX Security Symposium, 2024.

C6 Habiba Farrukh, **Reham Mohamed**, Aniket Nare, Antonio Bianchi, and Z. Berkay Celik
LocIn: Inferring Semantic Location from Spatial Maps in Mixed Reality
Proceedings of the USENIX Security Symposium, 2023.

C5 **Reham Mohamed**, Habiba Farrukh, He Wang, Yidong Lu, and Z. Berkay Celik
Disclosing Sensitive User Information by Mobile Magnetometer from Finger Touches
Privacy Enhancing Technologies (PoPETs), 2023.

* My Google Scholar.

C4 Habiba Farrukh, **Reham Mohamed**, Siyuan Cao, and He Wang
FaceRevelio: A Face Liveness Detection System for Smartphones with a Single Front Camera
Proceedings of the ACM International Conference on Mobile Computing and Networking (MobiCom), 2020.

C3 **Reham Mohamed** and Moustafa Youssef
HeartSense: Ubiquitous Accurate Multi-Sensor Fusion-based Heart Rate Estimation Using Smartphones
Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (UbiComp), 2017.

C2 **Reham Mohamed**, Heba Aly and Moustafa Youssef
Accurate and Efficient Map Matching for Challenging Environments
Proceedings of the 22nd ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems, 2014.

C1 Heba Abdel-Nasser*, **Reham Samir***, Ibrahim Sabek, and Moustafa Youssef
MonoPHY: Mono-stream-based Device-free WLAN Localization via Physical Layer Information
IEEE Wireless Communications and Networking Conference (WCNC), 2013.

Journal Publications

J2 **Reham Mohamed**, Heba Aly and Moustafa Youssef
Accurate Real-time Map Matching for Challenging Environments
IEEE Transactions on Intelligent Transportation Systems, 2016.

J1 Heba Abdelnasser*, **Reham Mohamed***, He Wang, Souvik Sen, Ahmed Elgohary, Moustafa Farid, Romit Roy Choudhury, Moustafa Youssef
SemanticSLAM: Using Environment Landmarks for Unsupervised Indoor Localization
IEEE Transactions on Mobile Computing, 2015.

Workshop Publications

W2 **Reham Mohamed***, Maha Ragab*, Heba Abdelnasser*, Nagwa M. El-Makky and Marwan Torki
Al-Bayan: A Knowledge-based System for Arabic Answer Selection
Proceedings of the 9th International Workshop on Semantic Evaluation (SemEval), 2015.

W1 Heba Abdelnasser*, **Reham Mohamed***, Maha Ragab*, Alaa Mohamed*, Bassant Farouk*, Nagwa El-Makky, and Marwan Torki
Al-Bayan: An Arabic Question Answering System for the Holy Quran
EMNLP Workshop on Arabic NLP (ANLP), 2014.

Patents

P1 Habiba Farrukh, **Reham Mohammed**, Siyuan Cao, He Wang
System architecture and method of authenticating a 3D object, US Patent App. 16819166.