Ülkü Meteriz

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EDUCATION

PhD in Computer Science Aug 2018 – present
University of Central Florida, Orlando, FL USA

Visiting PhD Student *May 2020*
Systems and Algorithms Laboratory, Imperial College, London, UK
Cancelled due to COVID-19.

BSc in Computer Engineering Sep 2013 – Jul 2018
Middle East Technical University, Ankara, TR
CGPA: 3.55

EXPERIENCE

Graduate Research Assistant May 2019 – present
Security Analytics Lab (SEAL), University of Central Florida, FL USA
▪ Leading projects on the privacy aspects of location-aware technologies and wearable IoT.
▪ Leading the development of curriculum and hands-on labs for mobile computing security.
▪ Working on projects related to the security and privacy of virtual and augmented reality systems.

Graduate Teaching Assistant Aug 2018 – May 2019
Computer Science Department, University of Central Florida, FL USA
▪ *COP 4710 - Database Systems:* Prepared and evaluated projects, assignments and exams. Held office hours.
▪ *CIS 4361 - Secure Operating Systems and Administration:* Prepared and evaluated exams.
▪ *CAP 6640 - Computer Understanding of Natural Language:* Evaluated assignments and exams.

Research Intern Jul 2017 – Sep 2017
Visualization Group, WMG, University of Warwick, Coventry, UK
▪ Involved designing and implementing a multisensory virtual reality project, mainly visual gathering, processing and presentation modules. Extended the project to CCW, the senior project completed at METU.

Teaching Assistant Oct 2016 – Jun 2017
Computer Engineering Department, Middle East Technical University, TR
▪ CEng230 Introduction to C Programming: Assisted students at the laboratory recitations.

Mobile Application Developer Jun 2016 – Sep 2016
TagOnMap Software Research & Development Corp. Bilkent Cyberpark, Ankara, TR
▪ Involved in the design, implementation and test phases of server, database management and development of GUI of the hybrid mobile application of the company.

TECHNICAL SKILLS

Language
▪ Proficient in C, C++, Python, Java, C#
▪ Have experience with Haskell, Prolog, x86_64 Assembly, PIC Assembly, Verilog, SQL, HTML/CSS

Library
▪ scikit-learn, PyTorch, TensorFlow, NumPy, SciPy, PCL

Misc
▪ Unity3d, LaTeX, Multi-Threaded Programming, Git

PROJECTS

Keyboard inference attack via acoustic emanations captured by smartwatches Feb 2020 - present
▪ Exploration of the side-channel attack introduced by the acoustic emanations of the physical keyboard captured by built-in microphone of a smartwatch. Inference of a text written on a physical keyboard by means of signal processing, machine learning, and language modelling.

Automatic annotations of privacy policies using semantic-based models Feb 2020 - present
▪ Automatically highlighting the important privacy aspects included in a privacy policy by embedding it using Universal Sentence Encoding, Swivel and Neural Network Language Models.

Inference attacks and defenses on location-aware social platforms Jan 2019 – Jan 2020
▪ Exploration of the attack vectors revealing sensitive user information for location-aware social systems by means of the insights obtained from Natural Language Processing and Computer Vision areas. Development of defense mechanism to obviate such threats. Paper is accepted to ICDCS 2020.

AR keyboard input estimation from user hand gestures Jun 2019 – Mar 2020
▪ Exploration of the attack surface threatening text input privacy of emergent AR systems employing virtual keyboards. Development and evaluation of the defense mechanisms for such attack vectors. Evaluation of the usability of virtual keyboards with different defense mechanisms applied. Paper is submitted to CCS 2020.

Development of curriculum and hands-on labs for mobile computing security Jun 2019 – Sep 2019
▪ Leading a team of 8 to prepare an educational material with both theoretical and practical aspects on mobile computing security to be used for undergraduate and graduate level courses.

CCW [project page] Sep 2017 – Jul 2018
▪ Carbon Copy World is my senior design project which is a multisensory virtual reality project having aimed to offer easy-to-use, affordable and portable solution to capturing dynamic real-world scenes and presenting the recorded scenes in virtual reality environment. Its technical aspects include but are not limited to fast-and-autonomous alignment of point cloud data coming from 2+ Kinect devices, networking of 2+ computers, and adaptive point cloud rendering in Unity. It depicts an extendible runtime structure by supporting variable number of devices. The project ranked 6th among 30 senior projects in METU CENG Demo Day 2018.

PUBLICATIONS

Published Papers
▪ **Ülkü Meteriz**, Necip Fazıl Yıldıran, and David Mohaisen. Understanding the Potential Risks of Sharing Elevation Information on Fitness Applications. IEEE International Conference on Distributed Computing Systems (ICDCS) 2020.

Papers in Submission
▪ Necip Fazıl Yıldıran, **Ülkü Meteriz**, Amro Awad, and David Mohaisen. A Keylogging Side-Channel Attack on In Air Tapping Keyboards in Virtual Environments. The ACM Conference on Computer and Communications Security (CCS) 2020.

Posters
▪ Ahmed Abusnaina, Aminollah Khormali, Hisham Alasmary, Jeman Park, Afsah Anwar, **Ülkü Meteriz**, Aziz Mohaisen. Breaking graph-based IoT malware detection systems using adversarial examples: poster. Wireless Network Security (WiSec) 2019: 290-291. [poster]

HONORS

BSc in Computer Engineering
▪ Awarded *Certificate of Excellence: Second Highest Departmental GPA Award* for the fall semester of 2016 - 2017 academic year issued by the chair of the Department of Computer Engineering.
▪ Awarded *Certificate of Appreciation* for duly perform teaching assistant duties.