

Khalid Elgazzar, PhD

Canada Research Chair in the Internet of Things (IoT), and Assistant Professor, Faculty of Engineering and Applied Science at University of Ontario Institute of Technology

Oshawa, ON, CA

Revolutionizing the development of advanced wireless technologies to maintain privacy while delivering unprecedented convenience

Description

Global use of mobile devices has exploded in recent years, driven by society's need for anytime, anywhere services at the touch of a button. Yet, privacy concerns over access to ubiquitous data remain a concern in adopting this technology. With the right mobile platform, users can enjoy a myriad of conveniences in their daily lives from personal home security alerts to "smart" appliances to real-time traffic information, without compromising privacy by giving users control of the information they share.

Dr. Khalid Elgazzar, a Canada Research Chair in the Internet of Things (IoT) and Associate Professor in the Faculty of Engineering and Applied Science is developing cutting-edge methods to advance wireless technologies that will ensure the seamless interaction of smart services across critical areas such as health care, transportation, emergency response and law enforcement, and industrial automation.

His CRC research agenda supports the expansion of Internet-enabled computing devices and advancements in wireless technologies. He is examining ways to embed computing devices such as data sensors in physical environments to create "smart spaces" where information can be relayed in real-time to help people live smarter, safer and more productive lives. His research also includes the development of a robust authorization control system to protect users' privacy. The technology in embedded computing devices such as sensors can revolutionize the way people carry out everyday tasks, something society is becoming increasingly reliant on in everyday life.

Previously, Dr. Elgazzar was an Assistant Professor at the Center of Advanced Computer Studies at the University of Louisiana at Lafayette, and is an Adjunct Assistant Professor with the School of Computing at Queen's University in Kingston, Ontario, where he has lectured; along with Carnegie Mellon University in Pittsburgh, Pennsylvania, and the Arab Academy for Science and Technology in Alexandria, Egypt.

Dr. Elgazzar holds a PhD in Computer Science from Queen's University. He earned a Master of Computer Engineering and a Bachelor of Engineering in Computer and Communication Engineering from Alexandria University in Egypt. Recognizing the of future technology, his keen interest in computer networking and model computing evolved into the idea of using mobile devices as a platform for people to not only access information online, but use it to improve efficiencies in their daily lives.

Industry Expertise

Research, Computer Software, Computer Networking, Computer/Network Security, Education/Learning

Topics

Cloud Computing, Context-aware and Interactive Services, Distributed Systems, Internet of Things (IoT), Mobile Systems

Affiliations

Institute for Electrical and Electronics Engineers

Past Talks

An Empirical Study of Latency in an Emerging Class of Edge Computing Applications
The Second ACM/IEEE Symposium on Edge Computing (SEC 2017)

QuARAM Service Recommender: A Platform for IaaS Service Selection
The 9th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2016)

The Case of Face Recognition on Mobile Devices
IEEE Wireless Communications and Networking Conference

Authentication and Access Control in e-Health Systems in the Cloud
The 2nd IEEE International Conference on Big Data Security on Cloud

SLAM: SLA Monitoring for Federated Cloud Services
The 8th IEEE International Conference on Cloud Computing

A Framework for Vehicular Cloud Computing
The 2015 International Conference on Connected Vehicles and Expo

goDiscovery: Web Service Discovery Made Efficient
The 22nd IEEE International Conference on Web Services

QuARAMRecommender: Case-Based Reasoning for IaaS Service Selection
The International Conference on Cloud and Autonomic Computing (CAC 2014)

Secure and Efficient Data Placement in Mobile Healthcare Services
The 25th International Conference on Database and Expert (DEXA 2014)

Near-Clouds: Bringing Public Clouds to Users'™ Doorsteps
The 9th IEEE Symposium on Computers and Communications

Best Paper Award: Empowering Mobile Service Provisioning Through Cloud Assistance
The 6th IEEE/ACM International Conference on Utility and Cloud Computing

Education

Queen's University
PhD Computer Science

Arab Academy for Science and Technology
MSc Computer Engineering

Alexandria University
BSc Computer and Communication Engineering

Accomplishments

Postdoctoral Research Associate, Carnegie Mellon University

During his one-year postdoctoral research role, Dr. Elgazzar led the effort to create core infrastructure support for an open and integrated IoT stack with innovations at the hardware, software and end-user levels (known as GIoTTO). GIoTTO provides a rich tool set and reconfigurable testbed for developers and researchers to build an IoT ecology system.

Adjunct Assistant Professor, Queen's University

Dr. Elgazzar is leading a team to develop a general purpose mobile sensing platform that offers sensing as a service on demand for IoT scenarios. The platform provides mechanisms to abstract low-level sensing functionality from both the underlying infrastructure and application-level demands to enable high flexibility.

Best Paper Award, The 6th IEEE/ACM International Conference on Utility and Cloud Computing

Dr. Elgazzar received this award for his paper entitled: Empowering Mobile Service Provisioning Through Cloud Assistance in the conference held in Dresden, Germany.

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