

Mahmoud Abdelsalam

Computer Scientist

✉ mahmoud.abdelsalam@manhattan.edu

📄 [hoverflow.users.sf.net](https://stackoverflow.com/users/10000000/hoverflow)

"Everyday life is like programming, I guess. If you love something you can put beauty into it." - Donald Knuth

Professional Summary

I am an Assistant Professor at the Department of Computer Science, Manhattan College. I received my Ph.D. in Computer Science from the University of Texas at San Antonio under the supervision of Prof. Ravi Sandhu and Dr. Ram Krishnan. I have also worked as a Postdoctoral Research Fellow at the UTSA Institute for Cyber Security (ICS). My research interests include Computer Systems Security, Anomaly and Malware Detection, Cloud Computing Security and Monitoring, Cyber Physical Systems and Applied Machine Learning.

Research Interests

- Computer Systems Security
- Anomaly and Malware Detection
- Cloud Computing Security and Monitoring
- Applied Machine Learning
- Adversarial Machine Learning
- Cyber Physical Systems

Education

- Jan 2014 – **Ph.D.**, *University of Texas at San Antonio, TX, USA, 3.9.*
- Dec 2018 Major: Computer Security
Dissertation: Online Malware Detection in Cloud Auto-Scaling Systems Using Performance Metrics
- Jan 2014 – **M.Sc.**, *University of Texas at San Antonio, TX, USA, 3.85.*
- May 2017 Major: Computer Science
- Sep 2009 – **B.Sc.**, *Arab Academy for Science and Technology, Alexandria, Egypt, 3.96, First of class.*
- Jul 2013 Major: Computer Science

Experience

- Aug 2019 – **Assistant Professor**, *Manhattan College, Riverdale, NY, USA.*
current
- Feb 2019 – **Postdoctoral Research Fellow**, *University of Texas at San Antonio, San Antonio, TX, USA.*
Aug 2019
 - Working on data-driven online malware detection in cloud systems.

- Aug 2015 – **Research Assistant**, *University of Texas at San Antonio*, San Antonio, TX, USA.
 Dec 2018 ○ Conducting research on IaaS cloud security using Machine Learning.
- Sep 2015 – **Teaching Assistant**, *University of Texas at San Antonio*, San Antonio, TX, USA.
 May 2016 ○ Teaching laboratory classes (recitations), preparing and grading exams and quizzes.
 ○ Course taught:
 - CS-5513 Computer Architecture
 - CS-2123 Data Structures
 - CS-1063 Intro to Comp Programming I
- Sep 2013 – **Graduate Teaching Assistant**, *Arab Academy for Science and Technology*, Alexandria, Egypt.
 Dec 2013 ○ Teaching laboratory classes, preparing and grading exams and quizzes.
 ○ Course taught:
 - Object Oriented Programming with Java
 - Multimedia Acquisition and Communication
 - Data Structures
 - Problem Solving
 - Introduction to Computers
 - Operating Systems
- May 2013 – **Software Engineer**, *TurboSMTP CORP*, NYC, USA (Remote).
 Sep 2013 ○ Projects:
 - <http://www.serversmtp.com/en/advanced-dashboard>
 · RESTful API development
 · MySQL
 · PHP
 · AngularJS
 · RabbitMQ
 - Turbo Summarizer
 · Program works as cron job to summarize big tables for faster SQL queries
 · PHP, Supervisor
- Mar 2013 – **Software Engineer Trainee**, *TurboSMTP CORP*, NYC, USA (Remote).
 May 2013 ○ Developing plug-ins for WHMCS billing system
 - PHP, MySQL

Publications

Mahmoud Abdelsalam, Ram Krishnan, and Ravi Sandhu. Online Malware Detection in Cloud Auto-Scaling Systems Using Shallow Convolutional Neural Networks. In *Proceedings 31st Annual IFIP WG 11.3 Working Conference on Data and Applications Security and Privacy (DBSec)*, 2019.

Mahmoud Abdelsalam. *Online Malware Detection in Cloud Auto-Scaling Systems Using Performance Metrics*. PhD thesis, department of Computer Science, University of Texas at San Antonio, 2018.

Mahmoud Abdelsalam, Ram Krishnan, Yufei Huang, and Ravi Sandhu. Malware Detection in Cloud Infrastructures using Convolutional Neural Networks. In *11th International Conference on Cloud Computing (CLOUD)*. IEEE, 2018.

Mahmoud Abdelsalam, Ram Krishnan, and Ravi Sandhu. Clustering-Based IaaS

Cloud Monitoring. In *10th International Conference on Cloud Computing (CLOUD)*, pages 672–679. IEEE, 2017.

Academic Activities

- 2018 **Sub-reviewer**, *IEEE International Conference on Cloud Computing (CLOUD)*.
- 2017 **Sub-reviewer**, *IEEE International Conference on Cloud Computing (CLOUD)*.
- 2015 **Sub-reviewer**, *International Conference on Information Security (ICS)*.

Talks

- Jul 2019 **Online Malware Detection in Cloud Auto-Scaling Systems Using Shallow Convolutional Neural Networks**, *DBSec, Charleston, SC*.
- Dec 2018 **Data-driven Online Malware Detection**, *University of Texas at San Antonio*.
- Jul 2018 **Malware Detection in Cloud Infrastructures using Convolutional Neural Networks**, *IEEE CLOUD, San Francisco, CA*.
- Jun 2017 **Clustering-Based IaaS Cloud Monitoring**, *IEEE CLOUD, Honolulu, Hawaii*.
- Sep 2016 **Cloud Security Monitoring**, *LMI, San Antonio, TX*.

List of Projects

- 2016 **CloudEye**.
 - Security monitoring system for anomaly detection in the cloud
- 2015 **GURAReachability**.
 - Tool for answering reachability questions in access control administrative model GURA
 - Tools: NuSMV, JAVA
- 2015 **DefCOMB**.
 - Framework for defense combinations Black-Box testing
 - Tools: Metasploit, Vbox API
- 2015 **Scala Compiler**.
 - Core compiler for Toy Language (TL) from scratch to MIPS code
 - Implemented scanner, parses, AST and CFG generator, and MIPS code translator in Scala

Honors and Awards

- 2011 **ACM ECPC**, *Participated in the Egyptian computer programming contest in informatics, Cairo, Egypt*.
- 2010 **ACM ACPC**, *17th place in the Arab regional computer programming contest in informatics, Beirut, Lebanon*.
- 2009 **Excellence Award**, *First Class Excellence Award from the Arab Academy for Science and Technology Computer Science Department, Alexandria, Egypt*.
- 2007 **EOI**, *Silver Medal in the Egyptian Olympiads in informatics, Cairo, Egypt*.
- 2006 **EOI**, *Gold Medal in the Egyptian Olympiads in informatics, Alexandria, Egypt*.

██████████ References

Available upon request.