

Sherif Khattab

489 Horeya St., Apt 5, Bolkeley, Alexandria, Egypt
Cell: (+20) 1091614051 Email: s.khattab@fci-cu.edu.eg
WWW: <http://sherif.cu.edu.eg>

ACADEMIC QUALIFICATIONS

EDUCATION

University of Pittsburgh, Pittsburgh, Pennsylvania USA

Ph.D. in Computer Science, August 2008, “A Defense Framework Against Denial-of-Service in Computer Networks”

MSc in Computer Science, April 2004

- Advisors: Rami Melhem and Daniel Mossé
- GPA 3.98

Cairo University, Giza, Egypt

B.Sc., Computer Engineering, July 1998

- GPA 3.83

SELECTED PUBLICATIONS (FOR A FULL LIST PLEASE CLICK [HERE.](#))

- Karam, H. A., S. M. Khattab, and A. Salah, **Poster: Web Service based Communication for Devices with Limited Resources**, Proceedings of the 14th Annual International Conference on Mobile Systems, Applications, and Services (MobiSys) Companion: ACM, pp. 9-9, 2016.
- Anas, M., S. Khattab, and A. Badr, **Poster: HeuristicIoT: A Framework for Augmenting Heuristic Search Algorithms by Internet-of-Things Data**, Proceedings of the 14th Annual International Conference on Mobile Systems, Applications, and Services (MobiSys) Companion: ACM, pp. 4-4, 2016.
- Hossny, E., S. Khattab, F. A. Omara, and H. Hassan, **Semantic-based Generation of generic-API Adapters for Portable Cloud Applications**, Proceedings of the 3rd Workshop on CrossCloud Infrastructures & Platforms, ACM, pp. 1-5, 2016.
- Mustafa M. Al-Sayed, Sherif Khattab, Fatma A. Omara, **Prediction mechanisms for monitoring state of cloud resources using Markov chain model**, Journal of Parallel and Distributed Computing, Volume 96, October 2016, Pages 163–171.
- Hossny, E., S. M. Khattab, F. A. Omara, and H. Hassan, **Extending Generic PaaS Deployment API: Repackaging and Deploying Applications on Heterogeneous PaaS Platforms**, International Journal of Big Data Intelligence, In Press.
- Amir Reda, Sherif Khattab, Yasmine Abouelseoud, and Hassan Elkamchouchi, **A Secure Geographical Routing Protocol for Highly-Dynamic Aeronautical Networks**, in IEEE Military Communications Conference 2015.
- Tamer Fatayer, Sherif Khattab, and Fatma Omara, **OverCovert: Using Stack Overflow Software Vulnerability to Create a Covert Channel**, in IFIP/IEEE NTMS'11.
- Tamer Fatayer, Sherif Khattab, and Fatma Omara, **A Key-Exchange Protocol Based on the Stack-Overflow Software Vulnerability**, in IEEE ISCC'10.
- Sameh Gabriel, Sherif Khattab, Daniel Mossé, and Rami Melhem, **On Link-Quality Estimation and Fault-tolerant Aggregation in Wireless Sensor Networks**, in GlobeCom 2009.
- Sherif Khattab, Sameh Gabriel, Rami Melhem, and Daniel Mossé, **Live Baiting for Service-level DoS Attackers**, in IEEE INFOCOM 2008.
- Sherif Khattab, Rami Melhem, Daniel Mossé, and Taieb Znati, **Honeypot Back-propagation for Mitigating Spoofing Distributed Denial-of-Service Attacks**, in *Proceedings of the 2nd International Workshop on Security in Systems and Networks (SSN'06) in conjunction with IPDPS 2006*, April 2006, **Best Paper Award**.

- Sherif M. Khattab, Chatree Sangpachatanaruk, Daniel Mossé, Rami Melhem, and Taieb Znati, **Roaming Honeypots for Mitigating Service-level Denial-of-Service Attacks**, in *Proceedings of the 24th International Conference on Distributed Computing Systems (ICDCS'04)*, March 2004.

SERVICE

- Editorial-board member of International Journal of Distributed Sensor Networks.
- Track Co-chair, INFOS'10 and INFOS'12, VWISA'12.
- TPC member for AICCSA'11 and SEAA'11, SEAA'13, AICCSA'14, CLOGREEN'14, WCCS'14, CLOUDTECH'15, WCCS'15, CLOUDTECH'16.
- External Reviewer for IEEE Transactions on Wireless Communications, IEEE/ACM Transactions on Networking, Journal of Parallel and Distributed Computing, Egyptian Informatics Journal, WCNC'02, DSN'04, ECRTS'04, MOBIQUITOUS'05, UbiCare'06, DASC'06, ICENCO'06, MOBIQUITOUS'07, RTSS'07, OPODIS'07, AICCSA'08, and RTAS'08, IEEE Transactions on Mobile Computing, Security and Communication Networks, MSN'09, ICDCS'10, INFOS'10, GlobeCom'11, ICCA'11, ICONIP'14, WCNC'14, PrivacyBook'14, WF-IoT'15, IEEE Transactions on Neural Networks and Learning Systems, INFOS'16.

AWARDS

- Teaching award from Computer Science Department, Faculty of Computers and Information, Cairo University, 2011 and 2012.
- Grant to attend Marktoberdorf Summer school 2010.
- Best Paper Award; International Workshop on Security in Systems and Networks (SSN'06).
- Andrew Mellon Predoctoral Fellowship (2006-2007).
- USENIX Student Stipend Award to attend NSDI'05.

UNIVERSITY POSTS **Cairo University**, Faculty of Computers and Information, Giza, Egypt

Associate Professor, Department of Computer Science **05/2016 - now**
Assistant Professor, Department of Computer Science **08/2008 - 04/2016**
Teaching Assistant, , Department of Computer Science **1998 - 2001**

Zewail City of Science and Technology Egypt

Adjunct Associate Professor, University of Science and Technology **07/2016 - 08/2016**

University of Pittsburgh, Pittsburgh, Pennsylvania USA

Graduate Research Assistant **May 2002 - Aug 2008**
Teaching Assistant for Computer Architecture. **Fall 2001**

TEACHING EXPERIENCE

Department of Computer Science, Faculty of Computers and Information, Cairo University, August 2008-Today

- Received the department's award for best student feedback in 2011 and 2012.
- Received positive student feedback directly from students
- Used Moodle (<http://cs213.mdl2.com>) to manage assignment submission, project groups, polls, grading and feedback.
- Used [Piazza](#) for online discussion and this has resulted in increased student engagement.

- Supervised the use of [Moss](#) tool to detect cheating in coding assignments, and [online judging site](#) for grading coding assignments.
- Developed online quizzes with immediate automatic feedback on Moodle.
- Assessed student projects based on live demos, presentations, write-ups, and videos using screen-casting software.
- Developed short videos and posted them on course websites for hard or frequently-asked topics.
- Taught courses:

CS317 - Concepts of programming languages	Fall'13, '14, '15
CS316 - Algorithms	Spring'13, '14, '15, Fall'15, Fall'16
CS623 - Embedded systems programming (graduate course)	Spring'12
CS214 - Data structures	Spring'12, '14
CS215 - File organization and processing (http://193.227.14.65/~skhattab/cs215)	Spring'11, '12, '13
CS213 - Programming 2 (http://193.227.14.65/~skhattab/cs213)	Fall'10, '11, '15, '16
CS112 - Programming 1 (http://193.227.14.65/~skhattab/cs112)	Spring'10 and Fall'08 (co-instructor)
CS221 - Digital Logic Design (http://193.227.14.65/~skhattab/cs221)	Fall'09
CS495 - Undergraduate Network Security (http://193.227.14.65/~skhattab/netsec/cs496)	Spring'09
CS517 (CS612) - Design and Analysis of Algorithms (graduate)	Fall'08, '09, '11, '12, '13, '14, '15, Spring'16,
CS595 - Graduate Network security (http://193.227.14.65/~skhattab/netsec/cs595)	Fall'16 Spring'09

Zewail City of Science and Technology, University of Science and Technology, July 2016-August 2016

- CSCI101 - Introduction to Computer Science.

Faculty of Engineering, Alexandria University, March 2011-July 2012

- CSx35 (Spring 2011) - Computer Architecture (elective course for 4th year communications students).

Ahram Canadian University (<http://www.acu.edu.eg>), October 2015 - Today

- CSC301 - Operating Systems.
- CSC414 - Specialized Practical Applications for Computer Science.
- CNE401 - Communication Technology I.
- CSC402 - Formal Languages and Automata.
- CSC403 - Software Tools & System Programming.

EC-Council University (<http://www.eccuni.us>), June 2009 - March 2011

- ECU521 - Ethical Hacking and Countermeasures (Online and Classroom).
- ECU528 - Linux Networking and Security
- ECU530 - Conducting Penetration Testing (Online).

Open Education Center, Cairo University, April 2009 - July 2015

- OU402 - Introduction to Natural Language Processing (Linguistics students).

Arab Academy of Science and Technology, 2009-2010; 2011-2012

- CC111 - Introduction to Computers
- CC112 - Structured Programming
- CC114 - Visual Basic Programming

University of Pittsburgh, Fall 2001

- CS1541 - Computer Architecture (TA)

Department of Computer Science, Faculty of Computers and Information, Cairo University, October 1998- August 2001

- Gave recitations for Data Structures, File Structures, Computer Networks, Operating Systems,

Computer Architecture, Digital Design, C/C++, Software Engineering, Database Concepts, and Distributed Databases.

- Designed and supervised lab exercises for Oracle Designer, Oracle Developer, Power Designer, Linux networking and inter-process communication mechanisms, and CORBA.

INDUSTRY
EXPERIENCE

Bosch Research and Technology Center, Pittsburgh, PA (Summer 2008), Software Engineering Intern.

- Co-developed a mode extraction tool to enhance component specification within the Software Component Technology. The tool parses engine control unit's code, extracts modes, and writes new XML specification.

Google Inc., Mountain View, CA (Summer 2007), Software Engineering Intern.

- Developed an integrated, customizable, web-based dashboard for performance monitoring of different Google applications.
- Designed a back-end MySQL database for the dashboard.

Ericsson Data Networks, Pittsburgh, PA (Summer 2006), Software Engineering Intern.

- Installed and managed HP OpenView and ServiceOn Data network-management software in an ATM network.
- Worked with the Eclipse software development environment and the P4 version control software.
- Setup a student-learning lab composed of terminal servers, edge and core network switches, and Solaris and Windows XP hosts.
- Developed dynamic web pages using Ruby and MySQL.

SamaSoft, Cairo, Egypt (1998-2001)

- Requirements Analysis, design, and system integration of a highway toll-gate control system.
- Developed multimedia tutoring applications in Delphi.

Giza Systems Engineering, Giza, Egypt (Summer 1997)

- Participated in operation and maintenance of a distributed information system developed for the U-17 FIFA World Championship.

DISSERTATION
ADVISING

PhD Students

- Ali Hamza; Fall 2016 - Today; A linguistic steganography framework using Arabic calligraphy.
- Hamada Ibrahim; Fall 2016 - Today; Safety verification of IFTTT rules for IoT mashups.
- Eman Hossny; Fall 2012 - Today; Generic PaaS API.

MSc students

- Aya Khattab - Spring 2017 - Today; Semantic-based generation of IFTTT rules for IoT mashups.
- Mohamed Majid - Spring 2016 - Today; Data leakage detection.
- Ahmed Anas - Summer 2014 - Today; Clickjacking defense.
- Mohamed Anas - Spring 2014 - Today; Data mining of crowd-sourced traffic measurements.
- Shaiban Zuheir - Summer 2013 - Today; Defending against DNS-based DoS attacks.
- Hazem Ali - Summer 2012 - Today; Web Service Based Communication for Limited-Resources Devices.

Alumni

- Mina Samman - MSc 2016 - Searching in the Web of Things.
- Amir Reda - MSc 2016 - Securing an Airborne routing protocol.
- Waleed Naji - MSc 2016 - An Enhancement of a Secure Coercion-Free Electronic Voting System.
- Labeeb Qubati; MSc 2015 - Secure e-voting.
- Mai Ali; MSc 2015 - Application-level DoS defense.
- Samy Gerges; MSc 2015 - Federated authorization in community clouds.
- Mohamed Bahtity; PhD 2014 - Data protection using cryptographic techniques.

- Moustafa Mahmoud; MSc 2014 - Resource monitoring in the cloud.
- Gihan Ragy; MSc 2014 - An intelligent XML security gateway.
- Radhya Sahl; MSc 2013 - Resource allocation in cloud computing.
- Ali Hamza; MSc 2013 - Resource allocation for cloud antivirus appliances.
- Abeer Rawih; MSc 2012 - Simulation-based analysis of anti-jamming defense.
- Tamer Fatayer; PhD 2011 - Innovative schemes for exploiting software vulnerabilities.
- Basheer Abdel-Fattah; PhD 2011 - DNA-based encryption schemes.
- Radwan Jaramh; MSc 2011 - Detecting web spam in arabic web pages using content analysis.
- Abdelrahman Ahmed; MSc 2010 - Secure VoIP online charging mechanisms.

RESEARCH
PROJECTS

An IoT platform for university campuses with service mashup (NTRA CFP5; Dec. 2016 - Today)

ITEA2 Web of Objects 2012-2014

- Developed software for accessing IPv6 connected devices using standard protocols.

ITEA2 EASI-CLOUDS 2012-2013

- Developed security services for the EASI-CLOUDS platform. These included denial-of-service detection and bot traceback.

NetSec 2002-2008 *Joint work with my advisors and the NetSec (www.cs.pitt.edu/netsec) and S-CITI (www.cs.pitt.edu/s-citi) group members*

- Designed and analyzed the live baiting algorithm for detecting Distributed Denial-of-Service (DoS) attackers using group testing theory in NS3 network simulator.
- Designed and evaluated (in NS2) the honeypot back-propagation scheme to trace attack packets back to their true sources in the case that IP addresses are spoofed (forged).
- Designed and evaluated (in the CSIM simulator) the Ridesharing scheme for fault-tolerant aggregation in wireless sensor networks.

REFERENCES

Available upon request.