

# Haitham Ghalwash

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## SKILLS

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### Programming

Python, Java, C++, HTML, CSS, JavaScript, SQL, YANG

### DevOps

AWS, Terraform, Ansible, Prometheus, Grafana, GitHub

### Networking and Security

SDN, Openflow, CyberSecurity, TCP/IP, VMware Vsphere, Citrix XenServer, OpenDayLight, CCNA, Windows, Linux, Mininet, NS-2, Wireless/Wired design and configuring

### Basic Data analysis:

Tableau, Hadoop, Excel

## EXPERIENCE

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**Assistant Professor in Residence, University of Connecticut, Storrs CT** *August 2020- Present*

- Teaching CyberSecurity lab that provides hands-on training in diverse computer security aspects including networking, architecture, systems, cryptography and IoTs
- Helping in design, purchasing and configuring required HW/SW lab equipment
- Managing the lab infrastructure and prepare testing environments for student training
- Working on a reserch project for enhancing PKI certificate transparency challenges and security

**DevOps Fellow, Insight, NY** *May 2020- Present*

- Built an automated and scalable system using Terraform for monitoring, logging, and sending alarms of blockchain networks. The developed system relies on python developed business-specific metrics exporters running on blockchain nodes and a Prometheus server for extracting information
- Built dashboards and an alerting system using Alertmanger and Grafana to facilitate visualization and monitoring incidence for real-time interventions.

**Teaching Assistant, University of Connecticut, Storrs CT** *Aug 2014 - May 2020*

- Prepared CyberSecurity lab infrastructure by setting ESXi VMs, configuring networks, and preparing hacking devices to provide Hand-on training of CyberSecurity Concepts.

**Doctoral Research Fellow (GAANN), University of Connecticut, Storrs CT** *Jan 2014 - May 2018*

- Researched and investigated the effectiveness of using the Opendaylight SDN controller in supporting different topologies, different network sizes, and providing QoS for applications.

**Technical Consultant, Information and Communication technology project, Egypt** *Jan 2008 - May 2013*

- Researched, analyzed, and estimated the requirement and budget for upgrading universities infrastructure and learning systems needed for a project that enhanced the IT infrastructure for 20 different universities.
- Technically coordinated the deployment, testing, and operation of the MIS project and Live@edu project to provide services for students of 20 universities.

*Technical Member, Education Development Fund (EDF), Egypt*

*Jan 2011 - Jun 2013*

- Prepared and managed RFPs for IT hardware and software in 5 schools and a technology college
- Designed networks and proposed enhancement for the learning infrastructure
- Tested network solutions and learning system equipment, including network equipment (wired/wireless), UPS, VC, Blade Servers, IP telephony, camera systems, printers, and Smartboards

*Teaching Assistant, Tanta University, Egypt*

*Feb 2007 - Jan 2014*

- Taught and prepared labs for "Computer Networks", "Information and Network Security", and "ObjectOriented and Data structure-C++" courses which included around 200 students per session.
- Designed, maintained and supervised Networking and Computer programming labs to provide students hands-on learning of networking and computer science concepts

## PROJECTS

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*QoS framework for SDN-based networks*

*2019*

- Developed python modules for the OpenDaylight controller to enhance QoS. The framework was tested in an SDN mininet based environment of virtual Openflow switches and Linux hosts

*Software-defined extreme-scale networks for big data applications*

*2015*

- Tested the effectiveness of using SDN based networks to support a Hadoop cluster. Testdfsio and terasort benchmarks were tested to check the effectiveness of having an OpenDaylight controller over traditional forwarding. Docker containers were used to host the Hadoop cluster nodes that were connected to the virtual Openflow switch of the fat-tree topology

*A Hybrid Wireless System for Real-time Remote Home Monitoring and Protection*

*2014*

- A moving robot with heat and sound sensors, live streaming and web control capability to monitor homes remotely

*Enhancing AODV Routing Protocol In MANETs*

*2012*

- Proposed enhancement for AODV Routing packets to announce the local power of forwarding nodes to enhance the overall network power behavior. NS-2 simulator and C++ were used to construct a new packet format and test the newly proposed protocol

## EDUCATION

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University of Connecticut, USA	2020	<i>Ph.D. in Computer Science and Engineering</i>
University of Connecticut, USA	2018	<i>MS.c in Computer Science and Engineering</i>
Tanta University, Egypt	2013	<i>MS.c in Computer and Control Engineering</i>
Information technology Institute, Egypt	2007	<i>Diploma in Computer Networking</i>
Tanta University, Egypt	2006	<i>BS.c. in Computer and Control Engineering</i>

## Volunteer

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Member of Islamic Center of University Connecticut	<i>Jan 2014 – present</i>
Member of a charity Association (Kelma)	<i>Aug 2005 – Jun 2007</i>
Vice president of Faculty Student Union	<i>Aug 2005 – Jun 2006</i>
President of the University's committee of social and cultural affairs	<i>Aug 2005 – Jun 2006</i>
Faculty of Engineering Student Union member	<i>Aug 2001 – Jun 2005</i>