

# Shadi Samir Mohamed Khalifa

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## Education

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[Sept. 2012 - To Date ]	<b>Ph.D. Candidate</b>	Computer Science, Queen's University, Canada
[June 2008 - Sept. 2011]	<b>M.Sc. (Distinction)</b>	Information Technology, Cairo University, Egypt
[Sept. 2002 - May 2006 ]	<b>B.Sc. (Highest Honors [91.95%])</b> (Ranked 2 <sup>nd</sup> in class of 90)	Information Technology, Cairo University, Egypt

## Research Interests

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Big Data Analytics, Ultra Large Scale Software, Cloud Computing, Virtualization, Information Storage, GPGPU Acceleration.

## Publications

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### I. Dissertation/Thesis

- Shady S. Khalifa, “**A Strategy for Improving Bluetooth Performance**”, *M.Sc. Thesis, Cairo University, Egypt*, September 2011. (33,000 word thesis) <http://goo.gl/WOPpz>
  - **Supervisors:** Prof. Hesham N. Elmahdy, Prof. Imane Aly Saroit, Prof. S. H. Ahmed.
  - In this research, we propose using Impulse Radio Ultra Wide Band based BluetoothV3.0 to achieve higher rates while being energy efficient and less affected by interference. An open source NS2 simulation model for the BluetoothV3.0 was developed to carry out the experiments. The proposed solution achieved 6 folds the throughput of the IEEE802.11 based Bluetooth while consuming only 0.04 of the energy consumed by the IEEE802.11 based Bluetooth.
- Shady S. Khalifa, et al., “**Intelligent Robot Vision System**”, *Graduation Thesis, Cairo University, Egypt*, May 2006. (10,000 word thesis) <http://goo.gl/KRhO0>
  - **Supervisors:** Prof. Khaled Mostafa Elsayed, Dr Samir AbdelRahman
  - In this project, I led a team of five to develop a vision system for a robot to help users searching their places for missing items using neural networks and image processing techniques.

### II. Refereed Journals

[2016]

1. Shadi Khalifa, Patrick Martin, Dan Rope, and Craig Statchuk. “**QDrill: Distributing the Un-Distributable for Consumable Analytics**,” *ACM Transactions on Knowledge Discovery from Data (TKDD)*. [Submitted Sept. 2016]
2. Shadi Khalifa, Yehia ElShater, Kiran Sundaravarathan, Aparna Bhat, Patrick Martin, Fahim Imam, Dan Rope, Mike McRoberts, and Craig Statchuk, “**The Six Pillars for Building Big Data Analytics Ecosystems**,” *ACM Computing Surveys* 49, 2, Article 33 (July 2016), 36 pages. [454 downloads]

[2014]

3. Haitham Hamza, *Shady Khalifa* and Khaled Elsayed, "**Autonomous Schemes for Inter-Cell Interference Coordination in the Downlink of LTE Systems**", *International Journal of Wireless Information Networks special issue on Stretching Boundaries in Wireless Communications*, Springer, vol. 21, no. 3, pp. 181-195, 2014.

[2013]

4. Abdelbaset S. Hamza, *Shady S. Khalifa*, Haitham S. Hamza, Khaled Elsayed, "**A Survey on Inter-Cell Interference Coordination Techniques in OFDMA-based Cellular Networks**", *IEEE Communications Surveys and Tutorials*, vol.15, no.4, pp.1642-1670, Fourth Quarter 2013 [2670 downloads & 115 citations]

[2011]

5. *Shady S. Khalifa*, Hesham N. Elmahdy, Imane Aly Saroit and S.H. Ahmed, "**An Assessment of Ultra Wide Band as an Alternative Controller for Bluetooth to Support High Rate Applications on Battery Powered Devices**", *CiiT International Journal of Wireless Communication*, vol.3, no.7, pp.546-552, May 2011, DOI:WC052011012. <http://goo.gl/yDJ8W>

### III. Conference Papers

[2016]

6. *Shadi Khalifa*, Patrick Martin, Dan Rope, Mike McRoberts, and Craig Statchuk, "**QDrill: Query-Based Distributed Consumable Analytics for Big Data**," In Proc. of the *5th IEEE International Congress on Big Data*, San Francisco, USA, June 27 - July 2, 2016.

[2014]

7. *Shady Khalifa*, and Patrick Martin, "**Smart Big Data Analytics as a Service Framework: A Proposal**," In Proc. *CASCON 2014: Emerging Technologies Track*, 3-5 November 2014, Markham, Ontario, Canada.
8. Rizwan Mian, Khaled Elgazzar, *Shady Khalifa*, and Patrick Martin, "**Near-clouds: Bringing Public Clouds to Users' Doorsteps**" In Proc. of the *International Workshop on Distributed Mobile Systems & Services (DMSS 2014)*, Madeira, Portugal, June 23, 2014.

[2013]

9. Patrick Martin, Farhana Zulkernine, *Shady Khalifa*, Azadeh Ektekhari, Behrooz Ashtiani, Dan Rope, Mike McRoberts and Craig Statchuk, "**Analytics-as-a-Service: Confluence of Big Data, Cloud Computing and Software-as-a-Service**", In Proc. *First International Workshop of Advancement from Confluence of Emerging Technologies (ACET)*, 18-20 November 2013, Markham, Ontario, Canada.
10. *Shady S. Khalifa*, Tianbin Jiang, Patrick Martin, "**MapReduce Garbage Collector**", In Proc. *CASCON 2013*, 18-20 November 2013, Markham, Ontario, Canada. (*Best Student Paper*)
11. *Shady S. Khalifa*, Haitham S. Hamza, and Khaled Elsayed, "**Self-Adaptive Inter-Cell Interference Coordination Scheme for LTE Systems**", In Proc of *IEEE PIMRC 2013*, London, England.
12. *Shady S. Khalifa*, Haitham S. Hamza, Khaled Elsayed, "**A Harmony Search Based Autonomous Power-Aware Inter-Cell Interference Coordination Scheme for LTE-Advanced Systems**". In Proc. *IEEE 78<sup>th</sup> Vehicular Technology (VTC-Fall 2013)*, 2-5 September 2013, Las Vegas, USA. (Accepted & Withdrawn)
13. *Shady S. Khalifa*, Haitham S. Hamza, Khaled Elsayed, "**Inter-Cell Interference Coordination for Highly Mobile Users in LTE-Advanced Systems**". In Proc. *IEEE 77<sup>th</sup> Vehicular Technology (VTC-Spring 2013)*. 2-5 June 2013, Dresden, Germany.

### IV. Technical Reports

- *Shady S. Khalifa*. "**Solving Java Memory Leaks in Hibernate Code Generated by Andromda Framework**", *Centrivation Inc.*, Egypt, February 2010.

## V. Open Source Contributions

- (September 2014 – To Date) **QDrill: Data mining extension for Apache Drill**  
QDrill allows users to run data mining algorithms from any library (currently only WEKA is supported) on Big Data stored in any data store (SQL, file system and NOSQL) using the simple SQL syntax.  
Available at: <http://cs.queensu.ca/~khalifa/qdrill/#home>
- (August 2009 – December 2011) **High Speed BlueTooth (HSBT)**  
HSBT is a NS2 Bluetooth simulation model. HSBT extends the UCBT to model the new BluetoothV3.0+HS core specification. (over 230 downloads)  
Available at: <http://code.google.com/p/hsbt> and <https://github.com/skhalifa/hsbt>

## VI. Talks and Conference Presentations

- Invited Speaker, “**The story of IoT, Cloud Computing, Big Data, and MapReduce**,” *Google IgniteCS*, Queen’s University, July 2016.
- Guest Lecturer, “**Introduction to PHP Sessions**”, *CISC 332: Database Management Systems*, Queen’s University, February 2016.
- Guest Lecturer, “**Introduction to PHP and MySQL**”, *CISC 332: Database Management Systems*, Queen’s University, January 2016.
- Guest Lecturer, “**Introduction to Big Data Analytics**”, *CISC 332: Database Management Systems*, Queen’s University, March 2015.
- Guest Lecturer, “**Introduction to Amazon Web Services and Elastic MapReduce**”, *CISC 886: Cloud Computing*, Queen’s University, September 2014, February 2014. *CISC 432/832: Advanced Database Management Systems*, Queen’s University, October 2013.
- Invited Speaker, “**Introduction to Cloud Computing and Big Data**” in the Queen's University Youth Outreach session, Queen’s University, July 2014.
- Guest Lecturer, “**Introduction to Cloud Computing, Big Data and MapReduce**” in the *CISC P81: Computers Applications and Implications (Under Graduate Course)*, Queen’s University, March 2014.
- Guest Lecturer, “**How Internet Works?**” in the *CISC P81: Computers Applications and Implications (Under Graduate Course)*, Queen’s University, March 2013.
- Invited Speaker, “**How to Start Your Graduation Project**,” in the *Graduation Project Tips & Excellence Session*, Faculty of Computers and Information, Cairo University, May 2012.
- Guest Lecturer, “**Application Acceleration Using the Massive Parallel Processing Power of GPUs**” in the *IS611: Advanced Database Systems (Graduate Course)*, Faculty of Computers and Information, Cairo University, March 2012.
- Lecturer, “**How to Write Your Academic CV**,” in the *TIC Teaching Assistance Preparation Program*, Faculty of Computers and Information, Cairo University, January 2012.
- Lecturer, “**Academic Duties and Responsibilities**,” in the *TIC Teaching Assistance Preparation Program*, Faculty of Computers and Information, Cairo University, January 2012.
- Invited Speaker, “**Cloud Computing Applications**” in the *46<sup>th</sup> Annual Conference On Statistics, Computer Science, and Operations Research, Institute of Statistical Studies and Research (ISSR)*, Cairo University, December 2011.
- Speaker, “**The Different Usage Models of Cloud Computing in Educational Institutes: A Full Survey**” in the *Cloud Computing Reading Group 1<sup>st</sup> Seminar*, Faculty of Computers and Information, Cairo University, October 2011.
- Invited Speaker, “**Energy Efficiency of Wireless Technologies**,” in the *Information Technology Department 1<sup>st</sup> Scientific Day on “Inventing the Future: Trends and Perspectives on Information Technology”*, Faculty of Computers and Information, Cairo University, January 2011.

## Research Experience

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- (September 2012 – To Date) **Research Assistant**, Database Systems laboratory, School of Computing, Queen's University, Canada. (<http://queensdsl.weebly.com/>)
  - Working on the topic of Big Data Analytics As A Service (AaaS) under the supervision of *Prof. Patrick Martin* as a part of the *IBM CAS* and *NSRC CREATE* research in the Ultra Large Scale Systems (ULSS) program. In this work, we modify the Apache Drill, a framework for running SQL statements on almost any storage type, to support analytics in parallel. Thus, enables running different kinds of machine learning algorithms seamlessly in parallel on Big Data without worrying about the data size nor the used storage. The source code of the developed solution can be downloaded from here: <https://svn.riouxsvn.com/qdrill/>
- (September 2011 – October 2012) **Research Assistant**, 4G++ Research Project, Faculty of Engineering - Cairo University, Egypt. (<http://www.4gpp-project.net/>)
  - This project searches for new methodologies and schemes for solving many of the significant challenges of LTE and LTE-Advanced systems. I work in a team led by *Dr Haitham S. Hamza* to design distributed Inter Cell Interference Coordination (ICIC) schemes.
  - My contributions to this project are:
    - Devising a parameterized methodology to represent cell-coordination based schemes.
    - Devising a coordinated distributed ICIC scheme and an autonomous ICIC scheme both based on Harmony Search and both outperformed the existing schemes in terms of power consumption and total achievable throughput.
- (September 2011 – August 2012) **Research Assistant**, ANSR Research Lab, Faculty of Computers and Information - Cairo University, Egypt. (<http://ansr.fci-cu.edu.eg>)
  - This research lab aims at advancing the state-of-the-art and state-of-the-practice in networking technologies to meet the emerging needs for solutions that advance our society and improve the quality of life of our citizens.
  - My contribution to this Lab is assisting in two projects in a team led by *Dr Haitham S. Hamza*;
    - *Optimization of Campus Wireless Network*: Devise algorithms and tools to help in planning the placement and configuration of the wireless access points to achieve full campus coverage with minimum interference.
    - *Campus Femto Cells*: Using Femto Cells to provide coverage to places of low coverage and using Asterisk® to allow free calls within the campus.
- (June 2012 – August 2012) **Research Assistant**, Cloud Computing Research Group, Faculty of Computers and Information - Cairo University, Egypt. (<http://groups.yahoo.com/group/FCICloudComputing/>)
  - I worked under the supervision of *Prof. Mohamed ElSharkawe* and *Dr Sherif Khatab* in resource provisioning on the cloud to handle changing workloads.

## Industrial Experience

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- (September 2015 – December 2015) **R&D Engineer**, *Queen's University and Vertamin Inc., Canada.*
  - *Responsibilities:* Developing an SMS interface for an ecommerce site such that the system users can search the stock and make orders using only SMSs eliminating the need to have internet access.
- (March 2015 – November 2015) **System Admin & Site Developer**, *Teachers of English as a Second Language (TESL) in Kingston and Area, Canada.*
  - *Responsibilities:* Developing and maintaining the TESL Kingston WordPress site <http://www.teslkingston.org/>
- (January 2013 – To Date) **Computer Assistant**, *Queen's University International Center (QUIC), Queen's University, Canada.*
  - *Responsibilities:* Developing and maintaining systems required for QUIC operations including the <http://quic.queensu.ca> website and other internal systems.
- (September 2008 – August 2012) **R&D Engineer**, *Department of Network Administration (DNA), Faculty of Computers and Information – Cairo University, Egypt.*
  - *Responsibilities:* Research and develop solutions to enhance the network performance, and network problem management.
- (May 2008 – June 2011) **Software Engineer**, *Centrivation Inc., Egypt.* (<http://www.centrivision.com/>)
  - *Projects:*
    - CentriCare: a customizable CRM system for managing customer's tickets.
    - CentriSpot: a WiFi router with access control.
    - Budget distribution system (for the Egyptian government)
    - EqMARS: Web-based application for equipment rental management (<http://eqmars.com/>)
  - *Responsibilities:* System architecture and design, technology research, problem management, systems performance analysis, and system development under Linux.
- (January 2009 – June 2009) **Product Development Process Owner**, *Centrivation Inc., Egypt.*
  - *Responsibilities:* Design the "product development" process as part of CMMI for Centrivation Inc.

## Competitions

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- (April 2015 – May 2015) **Data Mining Cup 2015.** (<http://www.data-mining-cup.de/en/startseite.html>)
  - Team size: 3 including myself.
  - Ranked: 21<sup>st</sup> out of 153 teams from 48 countries.
  - Problem: Studying the impact of coupons on the shopping basket value. We created an ensemble of classifiers to predict the shopping basket value as well as if coupons will be redeemed or not based on the user profile and bought item.
- (April 2014 – May 2014) **Data Mining Cup 2014.** (<http://www.data-mining-cup.de/en/startseite.html>)
  - Team size: 2 including myself.
  - Ranked: Did not submit due to problems integrating the ensemble models together.
  - Problem: Studying why shoppers return purchased items. We attempted to create an ensemble of classifiers to predict if a shopper is going to return the purchased item or not.

- (April 2013 – May 2013) **Data Mining Cup 2013**. (<http://www.data-mining-cup.de/en/startseite.html>)
  - Team size: 3 including myself.
  - Ranked: 59<sup>th</sup> out of 63 teams in task 1 and 11<sup>th</sup> in task 2 out of 17 teams.
  - Problem: Given an online user browsing history on an ecommerce website, predict if the user is going to end his/her visit with a purchase or not. We prepared the data for training by combining all user's visit history into a single record, thus generating more attributes for our model. Then we used a single random forest for prediction.

## Event Organizing

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- (7<sup>th</sup> Dec. 2014 – 9<sup>th</sup> May 2015) **6<sup>th</sup> Annual Queen's Graduate Computing Society Conference (QGCSC 2015)**, School of Computing, Queen's University, Canada.
  - *Responsibilities*: Conference financial officer which includes finance management, contacting sponsors and raising fund.
- (7<sup>th</sup> Dec. 2013 – 9<sup>th</sup> May 2014) **5<sup>th</sup> Annual Queen's Graduate Computing Society Conference (QGCSC 2014)**, School of Computing, Queen's University, Canada.
  - *Responsibilities*: Conference chair which includes finance management, contacting sponsors and designing advertisement.
- (7<sup>th</sup> Dec. 2012 – 9<sup>th</sup> May 2013) **4<sup>th</sup> Annual Queen's Graduate Computing Society Conference (QGCSC 2013)**, School of Computing, Queen's University, Canada.
  - *Responsibilities*: Vice-chairing which includes venue and food booking, contacting sponsors and designing advertisement.
- (10<sup>th</sup> May -15<sup>th</sup> June 2012) **8<sup>th</sup> International Conference on Informatics and Systems (INFOS 2012)**, Faculty of Computers and Information – Cairo University, Egypt.
  - *Responsibilities*: Member of the publishing committee: Preparing and organizing the conference proceedings which includes packaging the conference papers for submission to IEEE eXplore.
- (28<sup>th</sup> -29<sup>th</sup> January 2012) **The 1<sup>st</sup> round of the Teaching Assistant Preparation Program** provided by the Teaching & Instructing Center (TIC), Faculty of Computers and Information – Cairo University, Egypt.
  - *Responsibilities*: Logistics which includes preparing the two day event Agenda, booking the venue and printing and preparing the student's file material.

## Leadership Roles

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- (7<sup>th</sup> Dec. 2014 – 9<sup>th</sup> May 2015) **Financial Officer**, 6<sup>th</sup> Annual Queen's Graduate Computing Society Conference (QGCSC 2015), School of Computing, Queen's University, Canada.
  - Responsible for finance management, contacting sponsors and raising fund.
- (April 2013 – Sept. 2014) **President**, Queen's Cultural Engagement Group, Queen's University, Canada. (<https://www.facebook.com/groups/CulturalEngagementGroup/>)
  - Responsible for creating events where Queen's students from different cultures get to meet together and exchange their experiences while discovering Canada.
- (April 2013 – April 2014) **Secretary & Vice President for social**, Egyptian Student Association in North America (ESANA) - Kingston Chapter, Queen's University, Canada. (<https://www.facebook.com/groups/ESANA.Kingston/>)
  - Responsible for organizing trips and social events to get the Egyptians living in Kingston together.

- (November 2012 – April 2014) **Vice President for social**, *Queen's Food Exchange Club*, *Queen's University, Canada*. (<https://www.facebook.com/groups/415899721804811/>)
  - Responsible for advertising the group and encouraging Queen's students to join.
- (7<sup>th</sup> Dec. 2013 – 9<sup>th</sup> May 2014) **Chair**, *5<sup>th</sup> Annual Queen's Graduate Computing Society Conference (QGCSC 2014)*, *School of Computing, Queen's University, Canada*.
  - Responsible for finance management, contacting sponsors and designing advertisement.
- (7<sup>th</sup> Dec. 2012 – 9<sup>th</sup> May 2013) **Co-Chair**, *4<sup>th</sup> Annual Queen's Graduate Computing Society Conference (QGCSC 2013)*, *School of Computing, Queen's University, Canada*.  
<http://flux.cs.queensu.ca/gcs/files/2012/12/QGCSC-2013-Conference-Summary.pdf>
  - Responsible for venue and food booking, contacting sponsors and designing advertisement.
- (September 2011 – August 2012) **Co-Founder**, *Cloud Computing Research Group*, Faculty of Computers and Information - Cairo University, Egypt. (<http://groups.yahoo.com/group/FCICloudComputing/>)
  - I'm one of the co-founders of this research group which aims at introducing the Cloud Computing research into our research community and search for yet open research points in this field.
- (October 2011 – May 2012) **Track Owner**, *Teaching Assistant Preparation Program, Teaching & Instructing Center (TIC)*, Faculty of Computers and Information – Cairo University, Egypt.
  - *Responsibilities*: Developing and presenting material that informs new TAs of their duties, responsibilities and how to present themselves in the academic society.
- (January 2012 – May 2012) **EMC<sup>2</sup> Academic Alliance Program Coordinator**, Faculty of Computers and Information – Cairo University, Egypt. (<http://education.emc.com/academicalliance/faculty.aspx>)
  - *Responsibilities*: Coordinate between EMC and Faculty of Computers and Information – Cairo University.

## Professional Development

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### I. Courses:

- **SGS 901: Teaching and Learning in Higher Education** – Centre of Teaching and learning, Queen's University, Canada (Jan. – March 2013).

### II. Workshops Attended (as participant):

- **How to Write a Literature Review**– Expanding Horizons, Queen's University, Canada (March 13th, 2013)
- **Building Strategic Relationships** – Expanding Horizons, Queen's University, Canada (March 5th, 2013)
- **Equity Issues in the Queen's Classroom** – Expanding Horizons, Queen's University, Canada (Feb 28th, 2013)
- **Social Media to help with the Job Search** – Expanding Horizons, Queen's University, Canada (Feb 26th, 2013)
- **Managing Presentation Anxiety** – Expanding Horizons, Queen's University, Canada (Feb 14th, 2013)
- **Conference: from Abstract to the Audience**– Expanding Horizons, Queen's University, Canada (Feb 12th, 2013)
- **Tips & Strategies for Timely Degree Completion** – Expanding Horizons, Queen's University, Canada (Feb 6th, 2013)
- **Volunteering & civic engagement** – Expanding Horizons, Queen's University, Canada (Jan 31st, 2013)
- **Foundations of Project Management I** - MITACS at Queen's University, Canada (Dec. 4th – 5th, 2012).
- **Interviewing for Academia** – Expanding Horizons, Queen's University, Canada (Nov. 27<sup>th</sup>, 2012).
- **Resumes & Cover Letters that convey your strengths for the professional job market** - Queen's University, Canada (Nov. 22<sup>nd</sup> 2012).
- **Business Etiquette and Networking**– MITACS at Queen's University, Canada (Nov. 16<sup>th</sup> 2012).
- **Good Citation Practices** - Expanding Horizons, Queen's University, Canada (Nov 13<sup>th</sup> 2012).
- **Research Data Management** - Expanding Horizons, Queen's University, Canada (Nov. 05<sup>th</sup> 2012).
- **AODA-800: Accessible Customer Service online tutorial** – Expanding Horizons, Queen's University, Canada (Oct. 31<sup>st</sup> 2012).
- **Intellectual Property: Publications & Patents** - Expanding Horizons, Queen's University, Canada (Oct. 24<sup>th</sup> 2012).

- **SGS 804: Human Research Ethics (CORE) online tutorial** – Expanding Horizons, Queen’s University, Canada (Oct 17<sup>th</sup> 2012).
- **Writing an Abstract** – Expanding Horizons, Queen’s University, Canada (Oct 15<sup>th</sup> 2012).
- **Integrity in Research & Academics** – Expanding Horizons, Queen’s University, Canada (Sept. 24<sup>th</sup> 2012).
- **Competitive Research Projects** – Faculty and Leadership Development Center, Cairo University, Egypt (May 20<sup>th</sup>– 22<sup>nd</sup>, 2012).
- **Use of Technology in Teaching** – Faculty and Leadership Development Center, Cairo University, Egypt (May 20<sup>th</sup>– 22<sup>nd</sup>, 2012).
- **Organizing Scientific Conferences** – Faculty and Leadership Development Center, Cairo University, Egypt (Jan 16<sup>th</sup> – 18<sup>th</sup>, 2012).
- **E-Learning** – Faculty and Leadership Development Center, Cairo University, Egypt (Jan 09<sup>th</sup>– 11<sup>th</sup>, 2012).
- **Examination Techniques and Student Evaluation**– Faculty and Leadership Development Center, Cairo University, Egypt (Jan. 02<sup>nd</sup> – 04<sup>th</sup>, 2012).
- **Scientific Publishing** – Faculty and Leadership Development Center, Cairo University, Egypt (April 12<sup>th</sup> – 14<sup>th</sup>, 2010).

### III. Certificates:

- **Expanding Horizons Professional Development Certificate** – Expanding Horizons, Queen’s University (Feb. 2013)
- **Teaching and Learning Certificate II: Practical Experience** – Centre of Teaching and learning, Queen’s University, Canada (Jan. 2013).
- **Teaching and Learning Certificate IV: Leadership** – Centre of Teaching and learning, Queen’s University, Canada (Nov. 2012).
- **Teaching and Learning Certificate III: Scholarship** – Centre of Teaching and learning, Queen’s University, Canada (Nov. 2012).

## Teaching and Advising Experience

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### I. Teaching

- (September 2016 – December 2016) **Course Instructor**, Queen’s University, Canada. (<http://www.queensu.ca>):
  - CISC 220: System-Level Programming [Linux, bash and C] (Fall 2016)
- (September 2012 – April 2016) **Teaching Assistant**, Queen’s University, Canada. (<http://www.queensu.ca>)  
Teaching Assistant to the following undergraduate courses:
  - CISC 332: Database Management Systems (Winter 2016).
  - COGS 100: Introduction to Cognitive Science (Fall 2014)
  - CISC P81: Computers Applications and Implications (Winter 2013, Winter 2014)
- (March 2008 – August 2012) **Teaching Assistant**, Faculty of Computers and Information, Cairo University, Egypt. (<http://www.fci-cu.edu.eg>)  
Teaching Assistant to the following undergraduate courses:
  - IT221: Data Communication (Fall 2008, Fall 2009, Summer 2010)
  - IT222: Computer Networks-1 (Spring 2009, Spring 2011)
  - IT223: Internet Technology (using HTML, PHP, Javascript, SQL) (Fall 2009)
  - IT321: Communication Technology (Fall 2011)
  - IT322: Computer Network-2 (Spring 2010, Spring 2011)
  - IT422: Wireless Networks (using GloMoSim) (Fall 2008, Fall 2010, Fall 2011)
  - IT496: High Speed Networks (using OPNET) (Spring 2009, Spring 2010)
  - The first three Cisco CCNA semesters (Summer 2009, Summer 2011)
- (February 2011 – April 2011) **Course Instructor**, Regional IT Institute, Egypt.
  - *Responsibilities:* Lecturing the “CCM4320: Network Systems and Services” course taught as a part of the M.Sc. joint Computer Network Program with *Middlesex University, United Kingdom*.

## II. Material Development

- I was responsible for developing all course material *lecture slides, quizzes, assignments* and *final exam* for the following courses:
  - CISC220: System-Level Programming, School of Computing, Queen's University.
- I was responsible for developing the *lab syllabus and material* for the following courses:
  - IT223: Internet Technology, Faculty of Computers and Information, Cairo University.
  - IT322: Computer Network-2, Faculty of Computers and Information, Cairo University.
  - IT422: Wireless Networks, Faculty of Computers and Information, Cairo University.
  - IT496: High Speed Networks, Faculty of Computers and Information, Cairo University.
- *Teaching Assistant's Handbook*, Faculty of Computers and Information, Cairo University.

## III. Co-Advising

- *Optimization of Campus Wireless Network*, undergraduate thesis, Cairo University, 2011.
- *Campus Femto Cells*, undergraduate thesis, Cairo University, 2011.

## Technical Program Committee

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- *ICCDMTA' 2016 International conference on Cancer Diagnostic and Medical Treatment Approaches*, Rome, Italy. 21-22 April, 2016.
- *ICSPDM' 2015 International Conference on Signal Processing & Data Mining*, Rome, Italy, 05-07 November, 2015.

## Paper Reviewing

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- *IEEE/ACM Transactions on Networking*, 2016.
- *Euro-Par 2016 22<sup>nd</sup> Int'l Conference on Parallel Processing*, Grenoble, France, 22-26 August, 2016.
- *Egyptian Informatics Journal*, 2015.
- *Euro-Par 2014 20<sup>th</sup> Int'l Conference on Parallel Processing*, Porto, Portugal, 25-29 August, 2014.
- *IEEE Transactions on Cloud Computing*, 2014.
- *2014 IEEE Innovative Smart Grid Technologies Conference- Asia (ISGT ASIA)*, Kuala Lumpur, Malaysia, 20-23 May, 2014.
- *2013 IEEE Student Conference on Research & Development (SCOREd)*, Selangor Malaysia, 16-17 Dec, 2013.
- *2013 IEEE's Vehicular Electronics Conference (VEC) and the International Electric Vehicle Conference (IEVC) World Forum (VEC/IEVC)*. Silicon Valley, CA, USA. October 23-25, 2013.
- *2013 24<sup>th</sup> annual IEEE Int'l Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*. London, UK. September 8 -11, 2013.
- *10th IFIP Int'l Conference on Network and Parallel Computing*, Guiyang, China, September 19-21, 2013
- *2013 IEEE Symposium on Computers & Informatics (ISCI '13)*. Langkawi, Malaysia. April 7 – 9, 2013.
- *2012 IEEE Symposium on Wireless Technology & Applications (ISWTA '12)*. Bandung, Indonesia. September 23-26, 2012.

## Honors and Awards

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- **Queen's Graduate Award (\$1,000)** from *Queen's University, Canada*, 2015-2016.
- **Queen's Graduate Award (\$3,000)** from *Queen's University, Canada*, 2014-2015.
- **Queen's Graduate Award (\$1,000)** from *Queen's University, Canada*, 2013-2014.
- **Best Student Paper Award (\$500)** from *IBM CASCON, Canada*, 2013.

- **Scholarship for the Doctoral program** in the School of Computing, *Queen's University, Canada*, (2012-2016).
- Offered the **Departmental Fellowship for the Doctoral program** in Computer, Communication and Information Sciences (EDIC), *École Polytechnique Fédérale de Lausanne (EPFL), Switzerland*, 2012.
- **Research Assistant of the Month** from the 4G++ Research Project – *Cairo University, Egypt*, June 2012.
- **Certificate of Merit and Excellence** for tender devotion and dedication to work as a Teaching Assistant from the Faculty of Computers and Information – *Cairo University, Egypt*, April 2012.
- **Certificate of Merit and Excellence** for tender devotion and dedication to work as a Teaching Assistant from the Faculty of Computers and Information – *Cairo University, Egypt*, June 2011.
- **Certificate of Appreciation** for outstanding performance from *Centrivation Inc. , Egypt*, October 2009.
- **Certificate of Appreciation** for the contributions in improving the software process in Centrivation from *Centrivation Inc. , Egypt*, April 2009.
- **Teaching Assistantship for the Masters program** in Information Technology, *Cairo University, Egypt* (2008-2011).
- **Certificate of Merit** for remarkable efforts in helping fellow colleagues during undergraduate studies from the Faculty of Computers and Information – *Cairo University, Egypt*, May 2006.
- **Certificate of Merit** for being one of the top three undergraduate students from the Faculty of Computers and Information – *Cairo University, Egypt*, March 2006.
- **Full Scholarship for B.Sc.** in Information Technology, *Cairo University, Egypt* (2002 -2006).

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## Technical Skills

### I. Development Tools

Java, C++, PHP, bash, Python, JavaScript, HTML, XML, SQL, MATLAB, Joomla, WordPress

### II. Frameworks

Hadoop, SPSS Modeler, RapidMiner, OpenRefine, Apache Drill, Weka

### III. Operating Systems

Linux (Debian and Red Hat), Windows

### IV. Language Skills

- *Arabic*: Fluent spoken and written.
- *English*: TOEFL iBT (October 2011) [Reading: 26/30, Listening: 29/30, Speaking: 24/30, Writing: 27/30]  
Total: 106/120.

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## Industrial Certificates

- EMC<sup>2</sup> Information Storage Associate (*EMCISA*), April 2012.

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## Additional Information

- Date of Birth : July 3<sup>rd</sup> 1985
- Nationality : Egyptian
- Immigration Status : Permanent Resident of Canada