Iman Elghandour

Computer and Systems Engineering,
Alexandria University
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EDUCATION

PhD in Computer Science   01/2006 - 11/2010
David R. Cheriton School of Computer Science, University of Waterloo, Canada.
Thesis title: Automatic Physical Design for XML Databases.
Advisor: Professor Ashraf Aboulnaga.
GPA: 4.0/4.0 (91.00 in UW course work)

MSc in Computer Science   09/2001 - 06/2004
Computer and Systems Engineering, Alexandria University, Egypt.
Thesis title: Asynchronous Mobile Agents for Locating Documents.
Advisor: Professor Mady Nagi.
GPA: 4.0/4.0

BSc in Computer Science   09/1996 - 06/2001
Faculty of Engineering, Alexandria University, Egypt.
Graduated with degree of honor.
GPA: 3.78/4.0

PROFESSIONAL EXPERIENCE

Assistant Professor   03/2012 - Present
Computer and Systems Engineering, Alexandria University, Egypt.

Assistant Professor   10/2013 - Present
SmartCI Center of Research Excellence, Alexandria University, Egypt.

Adjunct Assistant Professor   09/2012 - 12/2012
Computer Science and Engineering, Egypt-Japan University of Science and Technology (E-Just),
Egypt.

Postdoctoral Fellow   01/2011 - 12/2011
David R. Cheriton School of Computer Science, University of Waterloo, Canada.

Instructor for " CS348: Introduction to Database Management"   09/2011 - 12/2011
David R. Cheriton School of Computer Science, University of Waterloo, Canada.

Research Assistant, Teaching Assistant   01/2006 - 10/2010
David R. Cheriton School of Computer Science, University of Waterloo, Canada.

Researcher Intern   06/2009 - 09/2009
IBM Almaden Research Center, San Jose, California, USA.

CAS Intern   05/2006 - 08/2006 and **09/2007 - 12/2007**
IBM Centers for Advanced Studies, IBM Toronto Lab, Canada.

Teaching Assistant   08/2004 - 12/2005
Department of Computer and Information Science and Engineering, University of Florida, USA.

Teaching Assistant   09/2001 - 07/2004
Computer Science Department, Faculty of Engineering, Alexandria University, Egypt.

PUBLICATIONS

   Refereed Journal Publications

   (J1) Iman Elghandour, Ashraf Aboulnaga, Daniel C. Zilio, and Calisto Zuzarte. Recommending XML Physical Designs for XML Databases. *The VLDB Journal*, 22(4):447–470, 2013.

   (J2) Iman Elghandour and Ashraf Aboulnaga. ReStore: Reusing Results of MapReduce Jobs. *Proc. VLDB Endow. (PVLDB)*, 5(6):586–597. Presented at the International Conference on Very Large Databases (VLDB), Istanbul, Turkey, 2012.

   Refereed Conference and Workshop Publications

   (C1) Mohamed Hassaan and Iman Elghandour. A Real-Time Big Data Analysis Framework on a CPU/GPU Heterogeneous Cluster: A Meteorological Application Case Study. In *Proc. IEEE/ACM Int. Conf. on Big Data Computing, Applications, and Technologies (BDCAT)*, 2016 (to appear).

   (C2) Mariam Malak Fahmy, Iman Elghandour, and Magdy Nagi. CoS-HDFS: Co-Locating Geo-Distributed Spatial Data in Hadoop Distributed File System. In *Proc. IEEE/ACM Int. Conf. on Big Data Computing, Applications, and Technologies (BDCAT)*, 2016 (to appear).

   (C3) Ahmed Khalifa, Iman Elghandour, and Nagwa El-Makky. IncReStore: Incremental Computation of MapReduce Workflows . In *Proc. IEEE Int. Conf. on Data Engineering Workshops (ICDEW)*, Helsinki, Finland, 2016.

   (C4) Iman Elghandour and Mohamed Khalifa. City-Wide Traffic Congestion Prediction in Road Networks. In *Proc. Qatar Foundation Annual Research Conference (ARC)*, Doha, Qatar, 2014 (Poster).

   (C5) Iman Elghandour, Ashraf Aboulnaga, Daniel C. Zilio, and Calisto Zuzarte. Recommending XMLTable Views for XQuery Workloads. In *Proc. Int. Symp. on Database and XML Technologies (XSym)*, Lyon, France, 2009.

   (C6) Iman Elghandour, Ashraf Aboulnaga, Daniel C. Zilio, Fei Chiang, Andrey Balmin, Kevin Beyer, and Calisto Zuzarte. XML Index Recommendation with Tight Optimizer Coupling. In *Proc. IEEE Int. Conf. on Data Engineering (ICDE)*, Cancon, Mexico 2008.

   (C7) Iman Elghandour, Alaa Hafez, Magdy Nagi, and Khaled Nagi. Performance Analysis of Locating Files Asynchronously in Ad-hoc Networks. In *AICCSA*, pages 149–161, Cairo, Egypt, 2005.

   (C8) Khaled Nagi, Iman Elghandour, and Birgitta König-Ries. Mobile Agents for Locating Documents in Ad Hoc Networks. In *AP2PC*, pages 198–204, Melbourne, Australia, 2003.

   Demonstrations

   (D1) Iman Elghandour and Ashraf Aboulnaga. ReStore: Reusing Results of MapReduce Jobs in Pig. In *Proc. ACM SIGMOD Int. Conf. on Management of Data (SIGMOD)*, pages 701–704, Scottsdale, Arizona, 2012.

   (D2) Iman Elghandour, Ashraf Aboulnaga, Daniel C. Zilio, Fei Chiang, Andrey Balmin, Kevin Beyer, and Calisto Zuzarte. An XML Index Advisor for DB2. In *Proc. ACM SIGMOD Int. Conf. on Management of Data (SIGMOD)*, pages 1267–1270, Vancouver, Canada, 2008.

   (D3) Iman Elghandour, Ashraf Aboulnaga, Daniel C. Zilio, Fei Chiang, Andrey Balmin, Kevin Beyer, and Calisto Zuzarte. An XML Index Advisor for DB2. In *IBM Centers for Advanced Studies Conference (CASCON)*, Markham,Canada, 2008.

   Technical Reports

   (TR1) Iman Elghandour, Ashraf Aboulnaga, Daniel C. Zilio, Fei Chiang, Andrey Balmin, Kevin Beyer, and Calisto Zuzarte. XML Index Recommendation with Tight Optimizer Coupling. Technical Report CS-2007-22, University of Waterloo, 2007.

   Patents

   (PT1) Ashraf Aboulnaga, Andrey Balmin, Kevin Beyer, Iman Elghandour, Fei Chiang, Daniel C. Zilio, and Calisto Zuzarte. "XML Index Advisor," US Patent 2009/0063399, March, 2009.

Theses

(TH1) Iman Elghandour. "Automatic Physical Design for XML Databases," PhD Thesis, University of Waterloo, Canada, 2010.

(TH2) Iman Elghandour. "Asynchronous Mobile Agents for Locating Documents," M.S. Thesis, Alexandria University, Egypt, 2004.

PRESENTATIONS

(PR1) ReStore: Reusing Results of MapReduce Jobs, Alexandria University, April 2016.

(PR2) ReStore: Reusing Results of MapReduce Jobs, CMU-Qatar, Doha, Qatar, March 2015.

(PR3) Real-time Big Data Analytics for Smart Traffic Management, Workshop on ICT Solutions to non-ICT Domains: Problems and Available Technologies, Alexandria University, April, 2014.

(PR4) Real-time Big Data Analytics for Smart Traffic Management, SmartCI research Center, Alexandria University, December 2013.

(PR5) ReStore: Reusing Results of MapReduce Jobs, University of Waterloo, January 2012.

(PR6) Integrating MapReduce ideas into Distributed DBMS, University of Waterloo, January 2010.

(PR7) Shotgun: A Scalable and Elastic Solution for Low-latency Applications, IBM Almaden Research Center, September 2009.

(PR8) Recommending Materialized Views for XML Databases, University of Waterloo, January 2009.

(PR9) Recommending Indexes for XML Databases, University of Waterloo, November 2007.

(PR10) An XML Index Advisor for DB2, IBM Toronto Lab, August 2006.

RESEARCH INTERESTS

Cloud Computing	Platforms for Big Data Analytics
Distributed Databases	Query Optimization in Heterogeneous Clusters

STUDENTS

Former MSc Students

- Mariam Malak
  Thesis: Co-locating Spatial Data in Hadoop Distributed File System.

MSc Students

Ahmed Elmorsy	Ahmed Eshra
Sara Mustafa	Mina Edward

Former Graduation Project Students

- "Real-time Big Data Analysis of Lightning and Meteorological Data". Students: Mohamed Aboelhassan, Tarek El-Talawi, Ayman Geneidy. 2015 - 2016.

- "Arabic News Recommender System". Students: Mohamed Bassem, Mostafa Gad, Asser Hassan, , Hossam Mahmoud, Amr Rezk, and Ahmed Salah. 2013 - 2014.

- "City-Wide Traffic Congestion Prediction in Road Networks". Students: Yasser Adel, Mohamed Katri, Muhammad Ghareeb, Mahmoud Radwan, and Hazem Nada. 2013 - 2014.

PROFESSIONAL AFFILIATIONS

- Professional member of the IEEE Computer Society Technical Committee on Data Engineering (2016 - present).

- Professional member of the IEEE (2016 - present).

- Alexandria ACM Student Chapter Faculty Sponsor (2013 - 2015).

- Professional member of the ACM (2010 - present).

- Professional member of SIGMOD (2010 - present).

- Student member of the ACM (2003 - 2010).

PROFESSIONAL ACTIVITIES
Reviewer
- Transactions on Storage (TOS), 2016.
- Information Technology Industry Development Agency (ITIDA) – Grant reviewer, 2015.
- Transactions on Knowledge and Data Engineering (TKDE), 2015.
- Distributed and Parallel Databases (DAPD), 2015.
- ACS/IEEE International Conference on Computer Systems and Applications (AICCSA), 2014-2016.
- Alexandria Engineering Journal, 2014-2016.
- VLDB Journal, 2012-2013.
- International Japan-Egypt Conference on Electronics, Communication, and Computer (JE-CECC), 2013.
- Journal of Computer Science and Technology, 2013.
- Proceedings of the VLDB Endowment (PVLDB), 2011-2012.
- IEEE International Conference on Data Engineering (ICDE), 2008-2009.
- IEEE INFOCOM, 2004.

GRANTS
- ITAC Graduation Project Fund. "Real-time Big Data Analysis of Lightning and Meteorological Data", EGP 6800.   2015-2016.
- PI: STDF Capacity Building Grant. Hetertogenious High Performance Computing Cluster at SmartCI Research Center, Alexandria University, EGP 5,000,000.   2015-2017.
- Microsoft Azure Research grant, $20,000.   2015-2016.
- ITAC Graduation Project Fund. "Arabic News Recommender System", EGP 5000. 2013-2014.
- Alexandria University Graduation Project Award. "Arabic News Recommender System", EGP 4000.   2013-2014.
- Amazon Web Services (AWS) Educational grant, $2000.   2012-2013.

AWARDS
- IBM PhD Fellowship, 2009 - 2010.
- 2008 CAS Project of the Year, IBM Centers for Advanced Studies (CAS), Presented at the IBM Centers for Advanced Studies Conference (CASCON), 2008.
- Pat Selinger IBM PhD Fellowship Award, 2008.
- IBM PhD Fellowship, 2008 - 2009.
- David R. Cheriton Graduate Scholarship in Computer Science, 2008 - 2010.
- IBM Centers for Advanced Studies (CAS) Fellowship, 2006 - 2008.
- Research and Teaching Assistantship, David R. Cheriton School of Computer Science, University of Waterloo. January 2006-2010.
- University of Waterloo Graduate Entrance Scholarship 2006-2007.
- Teaching Assistantship, Department of Computer and Information Science and Engineering, University of Florida. August 2004 - December 2005.
- Teaching Assistantship, Computer Science Department, Faculty of Engineering, University of Alexandria. September 2001- August 2004.

Citizenship
- Canadian
- Egyptian