

ALAA EDDIEN AWAD ABDALLAH, PhD

Department of Computer Science
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Nationality: Jordanian/ Canadian

PERSONAL PROFILE

- Over 8 years of experience in teaching at university level.
- Over 4 years of experience in creating and developing trading strategies using C++ and socket programming.
- Strong theoretical background in math and computer science.
- Ability to teach and transfer knowledge clearly and manage department professionally and accurately.
- Ability to work in a pressurised environment with a strong attention to detail.
- Motivated, capable of independent work as well as team work.

RESEARCH INTEREST

Routing protocols for Ad Hoc and Sensor Networks, Network graphs, Network Security, Multimedia Security and Data Privacy.

EDUCATION

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| Sept. 2004 –April. 2008 | Ph.D. of Computer Science Department of Computer Science and Software Engineering Concordia University, Montreal, Quebec, www.concordia.ca
Thesis Title: Position Based Routing Algorithms for Three Dimensional Ad Hoc Networks. --- Nominated for “Best Dissertation Award”.
Thesis advisor: Professor: Thomas Fevens and Professor Jaroslav Opatrny |
| Sept. 2001 –Jun. 2003 | MSc of Computer Science Department of Computer Science, University of Jordan, Jordan www.ju.edu.jo
Course work Master |
| Sept. 1996 –Jun. 2000 | Bachelor of Computer Science Department of Computer Science, Yarmouk University, Jordan www.yu.edu.jo |

PROFESSIONAL EXPERIENCE

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| Sept 2009 – date | Assistant Professor (Hashemite University, CS department, Jordan)
Taught the following courses: <ul style="list-style-type: none">• Data Structures and Algorithms (c++)• Object Oriented Programming 1 (Java) (course coordinator)• Object Oriented Programming 2 (Advance Java)• Logic Design (course coordinator)• Wireless network |
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- Network
- Advance programming practice
- Special topics in Computer Science
- Security

2008-2011 Network and Market Research Specialist (World leader financial services firm in Canada)

- Extensive research on the current network security technologies and web servers.
- Creating a weekly trading strategy for energy futures.
- Trade and manage a dynamic position and make markets around it.
- Senior member of data acquisition team, at this team we create strategies to get sensitive data faster than others.
- Design and implements very competitive high-performance systems for electronic algorithmic trading.
- I have designed and created an extremely efficient and brand new risk engine for our trading strategies.
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2004-2008 Instructor and Researcher (Concordia University Montreal - Canada)

- Conducting research on smart routing in wireless ad hoc and sensor networks.
- Design and Implement a Network Simulator. It is specialized for mobile networks. The simulator consists of more than 50 thousand lines of C++ code including more than 70 different current routing algorithms.
- Published: 12 refereed journal and conference papers.
- I tutored the following courses:
 - Data Structures and Algorithms (C++)
 - Data Communication and Computer Networks (C++, Winsock)
 - C++ Programming
 - Programming Methodology (Java)
 - Discrete Mathematics
 - Theoretical Computer Science
 - Databases
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2001-2004 Instructor (Hashemite University, CS department, Jordan)

- I taught the following courses:
 - Data Structures and Algorithms (C++)
 - Computer Graphics
 - Object Oriented Programming 1 (C++)
 - Object Oriented Programming 2 (Advance c++)
 - Discrete Mathematics

ACADEMIC AWARDS AND HONOURS

2012-2014 Deanship of scientific Research - Hashemite University -new researchers' start-up program (March. 2013 ~ Sept. 2015) Topic: Enhanced Ant Colony Routing Algorithms for Mobile Ad-hoc Network. (\$45,000)

2005-2006 Research Assistance Award, Concordia University (\$21,000)

2008-2006 International Tuition Fee Remission Award, Concordia University (\$6,000)

2001-2003 M.S. full Scholarship, HU university -Jordan (\$8,000)
1997-1999 Dean's Honour list, Yarmouk University- Jordan

LEADERSHIP ACTIVITY

2007-2008 Graduate Student Association (GSA) Committee member; Concordia University.
2006-2008 VP of Engineering and Computer Science Graduate Association, Concordia University.
2006-2007 TA/RA Union Vice President, Concordia University.
1997-1999 President of the Computer Science Club, Yarmouk University.

PROFESSIONAL MEMBERSHIP, TECHNICAL COMMITTEES, PEER REVIEWER

- IEEE Member.
- Member and trainer of ACM Programming Contest, Jordanian Collegiate Programming. Part of the International Collegiate Programming Contest <http://icpc.baylor.edu/>
- Microsoft Academic Partner – The Hashemite University.
- Technical/Scientific committee and/or peer reviewer for the following conferences:
 - IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT), Amman, Jordan, 2011,2012,2013,2015.
 - Organizing committee of the International Conference on Computer, Information, and Telecommunication Systems (CITS), Zarqa, Jordan, 2012.
 - Volunteer at the IEEE Canadian Conference on Electrical and Computer Engineering Networks (2006).
- Regular Reviewer for the following journals:
 - Ad Hoc Networks (Elsevier)
 - Journal of Network and Computer Applications
 - IEEE Transaction on Parallel and Distributed Systems
 - Ad hoc now.
 - Wireless Personal Communications.
 - The IEEE Conference on Applied Electrical Engineering and Computing Technologies

CONFERENCES PRESENTATIONS, WORKSHOPS, AND SEMINARS

- The International conference on Sensor Networks, Information, and Ubiquitous Computing (ICSIUC 2014) Paris, France, Author.
- The International Conference on Information Technology (ICIT 2012), Madrid, Spain, Author and Session Chair.
- The International Conference on Computer and Software Engineering (ICCSE 2012), Madrid, Spain, Attendant.
- Canadian Conference on Computational Geometry (CCCG 2010), Winnipeg, Canada. Author
- The IEEE International Conference on Communications (ICC 2007), Glasgow, UK. Author
- The 3rd Annual International Conference on Mobile and Ubiquitous Systems: Networks and Services (MOBIQUITOUS 2006), San Jose, USA. Author
- Canadian Conference on Electrical and Computer Engineering (CCECE 2006), Ottawa, Canada. Author
- Ad-Hoc, Mobile and Wireless Networks (ADHOCNOW 2005), Cancun, Mexico. Author
- The 2nd ACM International Workshop on Performance Evaluation of Wireless Ad Hoc, Sensor, and Ubiquitous Networks (PE-WASUN 2005) , Montréal, Canada. Author
- The International Conference on Computer, Information, and Telecommunication Systems (CITS 2012), Zarqa, Jordan, **Organizing committee and Attendant.**

- The IEEE Conference on Applied Electrical Engineering and Computing Technologies (AEECT 2012), Amman, Jordan, **Attendant**.
- The IEEE Conference on Applied Electrical Engineering and Computing Technologies (AEECT 2013), Amman, Jordan, **Author**.

COMMITTEES and SERVICES

Concordia University

- Member of the Graduate Student Association (GSA), Concordia University, Canada (2008-2009).
- Member of the Engineering and Computer Science Graduate Association (ECSGA) Concordia University, Canada (2006 -2009).

Hashemite University

- Committee Member, Council of the IT College as the representative of the CSA Department (2011-2012).
- Member of the Graduation Projects Committee of the IT College (2011-2015).
- Chairman of the Curriculum Planning Committee of the IT College (2015-2016).
- Chairman of the IT labs Committee of the IT College (2012-2013).
- Member of the Scientific Research, Conferences, Seminars, and Expositions Committee of the IT College (2011- 2012).
- Member of the Appointment and Promotion committee of the CS Department (2011-2015).
- Member of Social Committee of the IT College (2012- 2013).
- Chairman of Scientific research Committee of the CS Department (2013- date).
- Member of the Equalizing Courses Committee for Transferred Students of the CS Department (2011-2015).
- Member of the Student's Affairs Committee of the IT College (2011-2012).
- Member of Bachelor of IT Degree Plan committee (2012-date).
- Member of the Students' Training Committee (2012-2014).

TECHNICAL SKILLS

Programming Languages: C/C++ (STL, boost, MFC), Java (JNI, AWT/Swing components), Python, Delphi, Pascal, SQL, Visual Basic, XML, Socket programming.

Development tools: MS Visual Studio, Eclipse, ClearCase, Multi-threading, UML and Design Patterns.

Protocols and APIs: TCP/IP, HTTP, Winsocks, COM, PVM, OpenGL, Pcap, WireShark.

Development Process: Agile (Scrum), VersionOne.

PUBLICATIONS

1. Alaa E Abdallah "Low overhead hybrid geographic-based routing algorithms with smart partial flooding for 3D ad hoc networks," Special issue of Journal of Ambient Intelligence and Humanized Computing, pp. 1-10, 2017.
2. M Bsoul, AF Otoom, AE Abdallah, N Hamadneh "An enhanced bandwidth hierarchy based replication strategy for dynamic replication in data grid, "Multiagent and Grid Systems, Vol 13/2, pp 163-175, 2017.

3. Ashraf H Aljammal, Ahmad M Manasrah, Alaa E Abdallah, Nedal M Tahat "A new architecture of cloud computing to enhance the load balancing," International Journal of Business Information Systems, Vol 25/3, pp. 393-405, 2017.
4. Alaa E Abdallah "Smart Partial Flooding Routing Algorithms for 3D Ad Hoc Networks," Procedia Computer Science, Vol. 94, pp. 264-271, 2016.
5. Alaa E. Abdallah , Emad E. Abdallah, Mohammad Bsoul and Ahmed Fawzi Otoom "Randomized geographic-based routing with nearly guaranteed delivery for three-dimensional ad hoc network ," International Journal of Distributed Sensor Networks, Vol. 12/10, 2016.
6. M. Bsoul, Alaa E. Abdallah, K. Almakhadmeh, N. Tahat "A Round-based Data Replication Strategy," IEEE Transactions on Parallel and Distributed Systems, Vol. 27/1, pp. 31-39, 2016.
7. Alaa E. abdallah, Emad E. Abdallah, Feras Hanandeh, Ashraf Aljamal, Essam Al-Daoud "Power Aware Ant Colony Routing Algorithm for Mobile Ad-hoc Networks," International Journal of Software Engineering and its Applications, Vol. 9/12, pp. 197-212, 2015.
8. Alaa. E. Abdallah, Emad E. Abdallah, Mohammad Bsoul, Ahmad Al-Khasawneh, Lina Amer " A blind 3D watermarking technique using spherical coordinates and skewness measure," International Journal of Security and Networks, vol.10/1, pp. 1-8, 2015.
9. Ahmed Fawzi Otoom, Emad E. Abdallah, Maen Hammad, Mohammad Bsoul, Alaa Eddien Abdallah "An intelligent system for author attribution based on a hybrid feature set," International Journal of Advanced Intelligence Paradigms, vol 6/1, pp. 328-345, 2014.
10. Emad Eddien Abdallah, Ibrahim Al-Oqily, Alaa Eddien Abdallah, Ahmed Fawzi Otoom, Ayoub Alsarhan "Spectral Graph and Minimal Spanning Tree for 3D Polygonal Meshes Fingerprinting," International Journal of Information Technology and Web Engineering, vol.9/4, pp. 40-53, 2014.
11. Alaa E. Abdallah, Bajes Y. Alskarnah "Cluster Based Ant Colony Routing Algorithm For Mobile Ad-Hoc Networks," proceeding of the 8th International Conference on Sensor Networks, Information, and Ubiquitous Computing, pp. 1337-1341, Paris, France, 2014.
12. Alaa Eddien Abdallah, Mohammad Bsoul, Emad Eddien Abdallah, Ibrahim Al-Oqily, George Kao "Cluster-Based Online Routing Protocols for Ad Hoc Network," International Journal of Information Technology and Web Engineering, vol.9/4, pp. 54-66, 2014.
13. Alaa Eddien Abdallah, Thomas Fevens, Jaroslav Opatrny: "3d local algorithm for dominating sets of unit disk graphs," Ad Hoc & Sensor Wireless Networks Journal, vol. 19/1-2, pp. 21-41, 2013.
14. Essam Al-Daoud, Feras Al-Hanandeh, Emad E. Abdallah, Alaa Eddien Abdallah , "Texture recognition by using a non-linear kernel," International Journal of Computer Applications in Technology, vol. 48/3, pp. 235--240, 2013.

15. E. E. Abdallah, A. E. Abdallah, A. Al-Khasawneh, M. Bsoul, and A. Alsarhan, "Secure local algorithm for establishing a virtual backbone in 3d ad hoc network," *International Journal of Networking and Virtual Organisations*, vol. 12/1, pp. 70–83, 2013.
16. E. E. Abdallah, A. E. Abdallah, Mohammad Bsoul, Ahmed F. Otoom, Essam Al-Daoud , " Simplified Features for Email Authorship Identification," *International Journal of Security and Networks*, vol. 8/2, pp. 72--81, 2013.
17. Feras Hanandeh, Emad E. Abdallah, Alaa Eddien Abdallah, and Essam Al-Daoud " Simplified approach for generating integrity tests in distributed database systems," *International Journal of Innovation and Learning*, vol. 13/4, pp. 375--387, 2013.
18. Ayoub Alsarhan, Emad E. Abdallah, Ibrahim Al-Oqily, and Alaa Eddien Abdallah, "An Economic Model for Resource Adaptation in 2D Mesh Multicomputer Networks," *International Journal of Computers and Their Applications (IJCA)*, Vol.20/1, pp. 1-8, 2013.
19. M. Bsoul, A. Al-Khasawneh, A Eddien Abdallah, E. E. Abdallah, and I. Obeidat, "An energy-efficient threshold-based clustering protocol for wireless sensor networks," *Journal of Wireless Personal Communications*, vol. 70/1, pp. 99–112, 2013.
20. Alaa Eddien Abdallah, Thomas Fevens, Jaroslav Opatrny, and Ivan Stojmenovic "Power-Aware 3D Position-based Routing Algorithms using Adjustable Transmission Ranges for Ad Hoc Networks," *Ad Hoc Networks*, vol. 8/1, pp. 15--29, 2010.
21. Alaa Eddien Abdallah, Thomas Fevens, Jaroslav Opatrny: "3d local algorithm for dominating sets of unit disk graphs," *proceeding of the 22nd Canadian Conference on Computational Geometry (CCCG 2010)*, pp. 35-38, Winnipeg, Canada.
22. Alaa Eddien Abdallah, Thomas Fevens, Jaroslav Opatrny "High delivery rate position-based routing algorithms for 3D ad hoc networks," *Computer Communications*, special issue on Algorithmic and Theoretical Aspects of Wireless Ad Hoc and Sensor Networks, vol. 31/4, pp. 807--817, 2008. DOI: 10.1016/j.comcom.2007.10.037.
23. Tarek El Salti, Thomas Fevens, Alaa Eddien Abdallah: "Fast Progress-Based Routing in Sensing-Covered Networks," *IEEE global communications conference (IEEE GLOBECOM 2008)*, pp. 5356-5361, LA, USA.
24. Song Liu, Thomas Fevens, Alaa Eddien Abdallah: "Hybrid Position-Based Routing Algorithms for 3D Mobile Ad Hoc Networks," *International Conference on Mobile Ad-hoc and Sensor Networks (MSN 2008)*, pp. 177-186, Wuhan, China.
25. A. Abdallah, M. Bsoul, E. Abdallah, A. AlKhasawneh, and M. Alzghool, "Local algorithm for establishing a virtual backbone in 3d ad hoc network," in *International Conference on Information Technology*, Madrid, Spain, 2012, pp. 18–22.

26. Thomas Fevens, Alaa Eddien Abdallah, Tarek El Salti, Louisa Harutyunyan: "A Class of Orientation-Invariant Yao-type Subgraphs of a Unit Disk Graph," The Fourth ACM SIGACT-SIGOPS Conference of Mobile Computing (DIALM-POMC 2007), pp. 1-8, Portland, USA.
27. Alaa Eddien Abdallah, Thomas Fevens, Jaroslav Opatrny: "Power-Aware 3D Position-based Routing Algorithms for Ad Hoc Networks," proceedings of the IEEE International Conference on Communications (ICC 2007), pp. 3130-3135, Glasgow, Scotland.
28. Alaa Eddien Abdallah, Thomas Fevens, Jaroslav Opatrny: "Randomized 3-D Position-based Routing Algorithm for Ad-hoc Networks," proceeding of the 3rd Annual International Conference on Mobile and Ubiquitous Systems: Networks and Services (MOBIQUITOUS 2006), San Jose, USA.
29. Alaa Eddien Abdallah, Thomas Fevens, Jaroslav Opatrny: "Hybrid Position-Based 3D Routing Algorithms with Partial Flooding," proceeding of IEEE Canadian Conference on Electrical and Computer Engineering Networks (CCECE 2006), pp. 227-230, Ottawa, Canada.
30. Alaa Eddien Abdallah, Mohammad Hassan, Goerge Kao, Calin Morosan: "Topology control for balanced energy consumption in emergency wireless deployments," the 2nd ACM international workshop on Performance evaluation of wireless ad hoc, sensor, and ubiquitous networks (MSWiM 2005), pp. 41-48, Montreal, Canada.
31. Thomas Fevens, Alaa Eddien Abdallah, Badr Naciri Bennani: "Randomized AB-Face-AB Routing Algorithms in Mobile Ad Hoc Networks," 4th International Conference on AD-HOC Networks & Wireless (ADHOC-NOW 2005), pp. 43-56, Cancun, Mexico.