

Curriculum Vita

Eslam Al Maghayreh

Associate Professor of Computer Science

Personal Information

Address: Faculty of Information Technology and Computer Science
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Education

Ph.D.		2008, Concordia University, Canada. <i>(One of the top 500 Universities in the world (in 2013) according to ARWU rankings and QS World University Rankings. One of the top 200 Universities in the world in the field of computer science(in 2012) according to ARWU rankings)</i>
	Dissertation Title	Avoiding State Enumeration in Dynamic Checking of Distributed Programs
	Emphasis	Distributed Systems
M.Sc.		2003, Yarmouk University, Jordan
	Emphasis	Computer Science
	Grade	94.5/100(<i>ranked first among all of the students graduated in the same academic year</i>)
B.Sc.		2001, Yarmouk University, Jordan
	Major	Computer Science
	Grade	87.7/100(<i>ranked first among all of the students graduated in the same academic year</i>)

Professional Experience

- Acting Director of Academic Affairs at King Saud University Branch in Almuzahmeah, Riyadh, KSA (October 2014 – Now).
- Associate Professor, Faculty of Computer and Information Systems, King Saud University, Almuzahmeah Branch, Riyadh, KSA (September 2014 – Now).
- Chairman of the Computer Science Department, Faculty of Information Technology and Computer Science, Yarmouk University, Irbid, Jordan (September 2012 – August 2014).
- Associate Professor, Computer Science Department, Yarmouk University, Irbid, Jordan. (June, 2013 – August 2014).
- Assistant Professor, Computer Science Department, Yarmouk University, Irbid, Jordan. (June, 2008 – May 2013).

- Chairman of the Management Information Systems Department, Faculty of Information Technology and Computer Science, Yarmouk University, Irbid, Jordan (September 2010 – September 2011)
- Assistant Dean for Students' Affairs, Faculty of Information Technology and Computer Science, Yarmouk University, Irbid, Jordan (September 2009 – September 2010)
- Postdoctoral Research Fellow, Computer Science Department, Concordia University, Montreal, Canada (May-June, 2008).
- Research and Teaching Assistant, Computer Science Department, Concordia University, Montreal, Canada (September 2003 – May 2008).
- Lecturer, Computer Science Department, Yarmouk University, Irbid, Jordan. (March, 2003 – August, 2003).

Research Interests

- ❖ Distributed systems
- ❖ Runtime verification of distributed programs
- ❖ Multi-agent systems
- ❖ Computational intelligence
- ❖ Artificial Intelligence

Publications

❖ Books

Eslam Al Maghayreh, *Simplifying Runtime Verification of Distributed Programs: Ameliorating the State Space Explosion Problem*, VDM Verlag, 2010.



Faisal Alkhateeb, Eslam Al Maghayreh and Iyad Abu Doush (**Editors**). *Multi-Agent Systems - Modeling, Control, Programming, Simulations and Applications*, InTech, 2011.



Faisal Alkhateeb, Eslam Al Maghayreh and Iyad Abu Doush (**Editors**). *Multi-Agent Systems - Modeling, Interactions, Simulations and Case Studies*, InTech, 2011.



❖ **Book Chapters**

- ❖ **Eslam Al Maghayreh**. A Genetic Algorithms Based Technique for Detecting Distributed Predicates. *Developments and Trends in Intelligent Technologies and Smart Systems*, IGI Global, 2017 (Accepted).

❖ **Journal Articles**

- ❖ **Eslam Al Maghayreh**, An Artificial Bee Colony Algorithm for Detecting Distributed Predicates, Submitted to the *International Journal of Distributed Systems and Technologies (IJDST)*, IGI Global, 2017.
- ❖ Basima Hasan, Iyad Abu Doush, **Eslam Al Maghayreh**, Faisal Alkhateeb, Mohammad Hamdan. *Hybridizing Harmony Search Algorithm with Different Mutation Operators for Continuous Problems*. *Applied Mathematics and Computation*, Vol. 232, Issue 1, 2014, pp. 1166-1182. (**5-years impact factor is 1.338**).
- ❖ Iyad Abu Doush, Basima Hasan, Mohammad Al-Betar, **Eslam Al Maghayreh**, Faisal Alkhateeb, Mohammad Hamdan. *Artificial Bee Colony with Different Mutation Schemes: A comparative study*. *Computer Science Journal of Moldova*, Vol. 22, Issue 1, 2014, pp. 77-98.
- ❖ Iyad Abu Doush, Faisal Alkhateeb, **Eslam Al Maghayreh**, Mohammad Al-Betar. *Hybridizing Harmony Search Algorithm with Multi-Parent Crossover to Solve Real World Optimization Problems*. *International Journal of Applied Metaheuristic Computing*, Vol. 4, Issue 3, 2013, pp. 1-14.
- ❖ Zakaria Al-Qudah, Iyad Abu Doush, Faisal Alkhateeb, **Eslam Al Maghayreh**, and Osama Al-Khaleel. *Utilizing Mobile Devices' Tactile Feedback for Presenting Braille Characters: An Optimised Approach for Fast Reading and Long Battery Life*. *Interacting with Computers- The Interdisciplinary Journal of Human-Computer Interaction*, Vol. 26, Issue 1, 2013, pp. 63-74 (**5-yearsrs impact factor is 1.455**).
- ❖ **Eslam Al Maghayreh**, Iyad Abu Doush, Faisal Alkhateeb. *Detecting Distributed Predicates Using Genetic Algorithms*. *The International Journal of Intelligent Information Technologies (IJIIT)*, Vol. 9, Issue 1, 2013, pp. 56-70.

- ❖ **Eslam Al Maghayreh**, Sallam Abu Al-Hija, Faisal Alkhateeb, Shadi Aljawarneh, and Emad Al-Shawakfeh. *BeesAnts: A New Nature-Inspired Routing Algorithm*. The International Journal of Communication Networks and Distributed Systems, Vol. 10, Issue 1, 2013, pp. 83-97.
- ❖ Iyad Abu Doush, Faisal Alkhateeb, **Eslam Al Maghayreh** and Mohammad Al-Betar. *The Design of RIA Accessibility Evaluation Tool*. In Advances in Engineering Software-Elsevier. Vol. 57, 2012, pp. 1-7 (5-years impact factor 1.226).
- ❖ **Eslam Al Maghayreh**. *A Harmony Search Based Algorithm for Detecting Distributed Predicates*. International Journal of Advanced Computer Science and Applications (IJACSA) (Impact factor for 2011 is 1.187), Vol. 3, Issue 10, 2012, pp. 153-160.
- ❖ **Eslam Al Maghayreh**. *Block-Based Atomicity in Message-passing Distributed Programs*. International Journal of Software Engineering and Its Applications, Vol. 6, Issue 4, 2012, pp. 79-90.
- ❖ **Eslam Al Maghayreh**. Samer Samarah, Faisal Alkhateeb, Iyad Abu Doush, Izzat Alsmadi, and Ahmad Saifan. *A Framework for Monitoring the Execution of Distributed Multi-agent Programs*. International Journal of Advanced Science and Technology, Vol. 38, January, 2012, pp. 53-66.
- ❖ Faisal Alkhateeb, Ahmad Manasrah, Iyad Abu Doush, and **Eslam Al Maghayreh**. *Connecting Mobile Users Through Mobile Social Networks*. International Journal of Interactive Mobile Technologies (iJIM), Vol. 6, Issue 4, 2012, pp. 4-12.
- ❖ Faisal Alkhateeb, Amal Alzubi, Iyad Abu Doush, Shadi Aljawarneh, and **Eslam Al Maghayreh**. *Searching and Generating Authoring Information: A Hybrid Approach*. International Journal of IT and Web Engineering, Vol. 6, Issue 3, 2012, pp. 1-14.
- ❖ Iyad Abu Doush, Faisal Alkhateeb, **Eslam Al Maghayreh**, Izzat Alsmadi, and Samer Samarah. *Annotations, Collaborative Tagging, and Searching Mathematics in E-Learning*. International Journal of Advanced Computer Science and Applications (IJACSA) (Impact factor for 2011 is 1.187). Vol. 2, Issue 4, April, 2011, pp. 30-39.
- ❖ Izzat Alsmadi, Faisal Alkhateeb, **Eslam Al Maghayreh**, Samer Samarah, and Iyad Abu Dosh. *Effective Generation of Test Cases Using Genetic Algorithms and Optimization Theory*. Journal of Communication and Computer. Vol. 7, Issue 11, November, 2010, pp. 72-82.
- ❖ Shadi aljawarneh, Faisal Alkhateeb, and **Eslam Al Maghayreh**. *A Semantic Data Validation Service for Web Applications*. Journal of

Theoretical and Applied Electronic Commerce Research (JTAER), Vol. 5, Issue 1, April, 2010, pp. 39-55.

- ❖ Riyadh Al-Shalabi, Ghassan Kanaan, and **Eslam Al Maghayreh**. *Bottom-Up Chart Parser for Arabic Sentences*. International Journal of Applied Science & Computations, Vol. 10, Issue 2, 2003, pp.100-109.

❖ Conference Articles

- ❖ Zakaria Al-Qudah, Iyad Abu Doush, Faisal Alkhateeb, **Esalm Al Maghayreh** Osama Al-Khaleel. *Reading Braille on Mobile Phones: A Fast Method with Low Battery Power Consumption*. The International Conference on user science and engineering (i-USER), pp. 118 – 123, 2011.
- ❖ **Eslam Al Maghayreh**. *Block-based Atomicity to Simplify the Verification of Distributed Applications*. In proceedings of the 24th Canadian Conference on Electrical and Computer Engineering, IEEE Canada, Ontario, Canada, pp. 887-891, 2011.
- ❖ **Eslam Al Maghayreh**, Iyad Abu Doush, Faisal Alkhateeb, and Shadi Aljawarneh. *A Tool for Monitoring and Tracing Multi-agent Applications*. In proceedings of the 24th Canadian Conference on Electrical and Computer Engineering, IEEE Canada, Ontario, Canada, pp. 878-881, 2011.
- ❖ **Eslam Al Maghayreh**, Salam Abu Al-Haija, Faisal Alkhateeb, and Shadi Aljawarneh. *Bees_Ants Based Routing Algorithm*. In proceedings of the International Conference on Intelligent Systems, Modelling and Simulation, pp.344-349, 2010.
- ❖ Shadi aljawarneh, Zahraa Muhsin, Ayman Nsour, Faisal Alkhateeb, and **Eslam Al Maghayreh**. *E-learning Tools and Technologies in Education: A Perspective*. In Proceedings of The Fifth Conference of Learning International Networks Consortium (LINC), MIT, Cambridge, Massachusetts, USA, 23-26 May, 2010.
- ❖ Iyad Abu Doush, Faisal Alkhateeb and **Eslam Al Maghayreh**. *Towards meaningful mathematical expressions in e-learning*. In Proceedings of the 2010 International Conference on Intelligent Semantic Web - Services and Applications (ISWSA 2010), ACM Chapter ACM Jordan, June, 2010.
- ❖ Faisal Alkhateeb, Amal Alzubi, Iyad Abu Doush, Shadi Aljawarneh, and **Eslam Al Maghayreh**. *Extracting Authoring Information Based on Keywords and Semantic Search*. In Proceedings of the 2010 International Conference on Intelligent Semantic Web - Services and Applications (ISWSA 2010), ACM Chapter ACM Jordan, June, 2010.

- ❖ Faisal Alkhateeb, **Eslam Al Maghayreh**, Mohammad Tubishat, and Shadi Aljawarneh. *The Use of Location Based Services for Very Fast and Precise Accidents' Reporting and Locating*. In Proceedings of the International Conference on Intelligent Systems, Modelling and Simulation, pp.21-24, 2010.
- ❖ Faisal Alkhateeb, **Eslam Al Maghayreh**, and Shadi Aljawarneh. *A Multi Agent-Based System for Securing University Campuses: Design and Architecture*. In Proceedings of the International Conference on Intelligent Systems, Modelling and Simulation, pp.75-79, 2010.
- ❖ H. F. Li, **Eslam Al Maghayreh**, D. Goswami. *Detecting Atomicity Errors in Message Passing Programs*. In Proceedings of the Eighth International Conference on Parallel and Distributed Computing, Applications and Technologies (PDCAT 07), pp. 193-200, Australia 2007 (IEEE CS press).
- ❖ H. F. Li, **Eslam Al Maghayreh** and Dhruvajyoti Goswami. *Using Atoms to Simplify Distributed Programs Checking*. In Proceedings of the Third IEEE international Symposium on Dependable, Autonomic and Secure Computing (DASC 07), September 25 - 26, 2007. IEEE Computer Society, Washington, DC.
- ❖ H. F. Li, **Eslam Al Maghayreh**. *Using Synchronized Atoms to Check Distributed Programs*. In Proceedings of the 13th International Conference on Parallel and Distributed Systems (ICPADS 2007), Hsinchu , Taiwan, December 2007.
- ❖ H. F. Li, **Eslam Al Maghayreh**. *Checking Distributed Programs with Partially Ordered Atoms*. In Proceedings of the 14th Asia-Pacific Software Engineering Conference (APSEC'07), pp. 518-525, 2007, Nagoya, Japan.
- ❖ **Eslam Al Maghayreh** and Mohammad Hamdan. *An Empirical Comparison of Different Crossover Techniques*, In Proceedings of the International Arab Conference on Information Technology, Yarmouk University, Jordan. December 2006.
- ❖ A. Majumdar, T. K. Tran, **E. Al Maghayreh**, H. F. Li, and D. Goswami. *On-the-Fly Agent-Based Distributed Shared State Monitoring*. In Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'04), Las Vegas, Nevada, USA, June 21-24, 2004.
- ❖ Riyadh Al-Shalabi, Ghassan Kanaan, and **Eslam Al Maghayreh**. *Bottom-Up Chart Parser for Arabic Sentences*. In Proceedings of the International Arab Conference on Information Technology, pp. 369-375, 2002.

❖ **Other Publications**

- ❖ **Eslam Al Maghayreh.** *Avoiding State Enumeration in Dynamic Checking of Distributed Programs.* PhD thesis, Concordia University, 2008.

Funded Project

Project Title: Developing an Interface to Control Mobility Disabled Peoples' Assistant Robot.

Fund Source:

- a. King Abdullah II Fund for Development.
- b. The King Abdullah II Design and Development Bureau.

Supervisors: Dr. Iyad Abu Dosh and Dr. Eslam Al Maghayreh.

Duration: 8 months.

The project has been completed and submitted on July 1, 2012.

Membership of Committees

- IEEE member
- Member of the Quality Assurance Committee, Department of Computer Science, Yarmouk University, for the academic year 2013/2014.
- Member of the Graduate Studies Committee, Department of Computer Science, Yarmouk University, for the academic years 2008/2009, 2011/2012, 2012/2013 and 2013/2014.
- Member of the Curriculum Committee, Department of Computer Science, Yarmouk University, for the academic year 2011/2012.
- Member of the organizing committee of the "Scientific week of the Faculty of IT", Yarmouk University, for the academic years 2011/2012, 2012/2013.
- Member of the Graduate Studies Committee, Department of Management Information Systems, Yarmouk University, for the academic year 2010/2011.
- Member of the Investigation Committee for Students Violations at the Faculty of Information Technology, Yarmouk University, for the academic years 2008/2009, 2009/2010.
- Conference Committee entitled "The International Conference on Intelligent Semantic Web – Services and Applications" held at the Faculty of Information Technology, Isra University, Amman, Jordan, June 2010.
- Representative of the Computer Science Department in the Faculty of Information Technology and Computer Science Council, Yarmouk University, for the academic year 2008/2009.

- Member of the Faculty of Information Technology and Computer Science Development and Planning Committee, Yarmouk University, for the academic year 2008/2009.
- Member of the Faculty of Information Technology and Computer Science Scientific and Library Committee, Yarmouk University, for the academic year 2008/2009.
- Member of other committees.

Presentations

- Third IEEE International Symposium on Dependable, Autonomic and Secure Computing, USA, September, 2007.
 - Presentation Title: “Using Atoms to Simplify Distributed Programs Checking”
- Eighth International Conference on Parallel and Distributed Computing, Applications and Technologies, Australia, December 2007.
 - Presentation Title: "Detecting Atomicity Errors in Message Passing Programs"
- The 13th International Conference on Parallel and Distributed Systems (ICPADS 2007), Hsinchu, Taiwan, December 2007.
 - Presentation Title: “Using Synchronized Atoms to Check Distributed Programs”
- The 14th Asia-Pacific Software Engineering Conference, Nagoya, Japan, December 2007.
 - Presentation Title: "Checking Distributed Programs with Partially Ordered Atoms,"
- The First International conference on Intelligent Systems, Modeling and Simulation, Liverpool, England, 27 – 29 January 2010.
 - Presentation Title: "Bees_Ants Based Routing Algorithm"
- The 24th Canadian Conference on Electrical and Computer Engineering, IEEE Canada, Ontario, Canada, May 8-11, 2011.
 - Presentation Title: "A Tool for Monitoring and Tracing Multi-agent Applications"

- Quality and Academic Development Center, Yarmouk University, Irbid, Jordan, 2011.
 - Presentation Title: "Computer and Internet Basics"
- Quality and Academic Development Center, Yarmouk University, Irbid, Jordan, 2013.
 - Presentation Title: "Searching through the Internet"

Programming Languages and Tools

C++, Java, Android, Prolog, Visual Basic, FORTRAN, OpenGL (Graphics Library), PVM (Parallel Virtual Machine) MPI (Message Passing Interface), JADE (Java Agent Development Framework), HTML, JavaScript, SQL, SPSS.

Postgraduate Supervision

- ❖ Fatema Mansour and Hadeel Al-azzam, Job Scheduling in Cloud Computing, Master Project, Yarmouk University, 2013.
- ❖ Iman Ziad Al-Ababneh, Arabic Question Answering System for "When" and "Where" Questions, Master Project, Yarmouk University, 2011.
- ❖ Mohammad Refifan Al-Rousan, Measuring the Similarity of Two Documents, Master Project, Yarmouk University, 2010.
- ❖ Abdelelah Saif, Embedding Hex-Cells and Complete Binary Tree into Tree-Hypercube and Embedding Hex-Cells into 2D Mesh. Master Project, Yarmouk University, 2010.
- ❖ Salam H. Abu AL-Haija'a , "Bees_Ants Collaboration Routing Algorithm over Hybrid Networks". Master Project, Yarmouk University, 2009.
- ❖ Shorouq Hussien Al-Fakeeh, "Speech Recognition: Isolated Words". Master Project, Yarmouk University, 2009.
- ❖ Muna habes Zenatia, "The Effect of Return Routability Encryption Algorithm on Correspondent Node Processor Time", Master Project, Yarmouk University, 2009.

Honors & Awards

- ❖ A certificate of appreciation from Yarmouk University for getting the highest GPA among all of the Bachelor students graduated from the Computer Science Department in the academic year 2000/2001.
- ❖ Awarded a scholarship from Yarmouk University (in 2001) to complete my Master degree in Computer Science and Information.
- ❖ A certificate of appreciation from Yarmouk University for getting the highest GPA among all of the Master students graduated from the Computer Science Department in the academic year 2002/2003.
- ❖ Awarded a scholarship from Yarmouk University (in 2003) to complete my PhD degree in Computer Science/Distributed Systems.

Teaching Experience

I have taught the following courses:

- CS100 (An Introduction to Computer Science and its Applications)
- CS101 (Programming in a Selected Language)
- CS105 (Turbo Pascal Programming Lab)
- CS101B (C++ Programming Lab)
- CS117 (Object-Oriented Programming)
- Math151 (Discrete Mathematics)
- COS 170 (Introduction to Computer Networks)
- COS 217 (Applied Operating Systems)
- ISY 208 (Modern Programming Language)
- CS250 (Data Structures)
- CS251 (Algorithms Analysis and Design)
- CS317 (Advanced Programming)
- CS342 (Theory of Computation)
- CS432 (Computer Architecture)
- CS434 (Distributed Computing)
- CS499 (Graduation Project)
- COMP346/5461 Lab (Operating Systems Lab)
- CS634 (Computer Networks Architecture)
- CS695 (Master Graduation project)