

Personal Information

Name	Sherenaz Waleed Al-Haj Baddar
Place and date of birth	Amman, Jordan, 12/8/1979
Faculty	King Abdullah II School for Information Technology
Department	Computer Science

Qualifications

Qualification	Specialization	University of donor rank	Date
Ph.D	Computer Science	Kent State University	2009
M.Sc.	Computer Science	The University of Jordan	2003
B.Sc.	Computer Science	The University of Jordan	2001

Specialization and domain of interest

Specialization	Parallel processing
Domain of interest	Parallel and distributed algorithms, anomaly detection in wireless networks

Specialization and domain of interest

Title and abstract of the doctoral thesis (within 150 words)
<p>Finding Better Sorting Networks</p> <p>Abstract:</p> <p>Sorting networks are cost-effective multistage interconnection networks with sorting capabilities. AKS Sorting networks sort N keys in $C(\log N)$ steps, but the constant C is so high as to render these networks impractical. The fastest Sorting networks designed so far use merge-sorting and sort N keys in $O((\log N)(\log N))$ steps. A network that sorts 16 keys in 9 steps was discovered by Van Voorhis. This network is faster than the 10-step merge-sorting network for 16 keys. This suggests that networks that are faster than merge-sorting networks can be designed. It is necessary to bridge the gap between the optimal impractical solutions and the practical solutions. This research aims at achieving this goal via finding a technique for</p>

designing faster Sorting networks, i.e. networks that require fewer steps than the corresponding merge-sorting networks. A zero/one case is a sequence of N binary 1 Accreditation and quality assurance center Curriculum Vitae The University of Jordan keys. Using zero/one cases to help design Sorting networks, is advantageous since it simplifies the sorting task, and helps track the progress of sorting. To help synthesize and analyze Sorting networks, Batcher developed the software tool Sortnet, which utilizes zero/one cases. With the help of Sortnet, a three-phase technique for designing Sorting networks that are faster than the merge-sorting networks was developed. The technique can also be used to design faster sorting programs in parallel processors. This technique is illustrated with two network designs that are faster than the corresponding merge-sorting designs: an 18-key network using only 11 steps and a 22-key network using only 12 steps.

Career Experience

Job Title	Place of work	Date
Assistant Professor	The University of Jordan	31/5/2009 - present
Graduate Assistant	Kent State University	2007-2009
Teaching Assistant	The University of Jordan	2002-2005

Administrative works and committees

Administrative work and committee	Date
Assistant Dean for Laboratory Affairs	Fall 2011 – Fall 2013
Assistant Dean for Community Outreach	Fall 2011 – Fall 2012
Assistant Dean for IT and QA	Fall 2012 – Fall 2013
Director of Computer Center	Fall 2013 – Fall 2014
Director of University Website	Fall 2015 – present

Recent Publications within last five years

Name of researcher	Research title, Publisher, Date
Sherenaz W. Al-Haj Baddar	Identifying Energy-Deprivation in Wireless Sensor Networks , Proceedings of the 2016 IEEE 30th International Conference on Advanced Information Networking and Applications Workshops-Third International Workshop on Energy-Aware Systems, Communications and Security (EASyCoSe 2016), Crans-Montana, Switzerland , March 23-25, 2016 (Accepted for publication).
Sherenaz Al-Haj Baddar Alessio Merlo Mauro Migliardi	SKETURE: A Sketch-based Packet Analysis Tool, ACM 22nd conference on Computer and Communication Security, Colorado, USA, 2015.
Sherenaz Al-Haj Baddar Alessio Merlo Mauro Migliardi	Anomaly Detection in Computer Networks: A State-of-the-Art Review, Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications (JoWUA), 5(4), 29-64, 2014.
Sherenaz Al-Haj Baddar Basel A. Mahafzah	Bitonic sort on a chained-cubic tree interconnection network, Journal of Parallel and Distributed Computing 74 (1), 1744-1761, 2014.
Sherenaz Al-Haj Baddar Kenneth E. Batcher	Designing sorting networks: A new paradigm, Springer Science & Business Media, 2012.
Sherenaz Al-Haj Baddar Naser Al Madi	PISC: A Portable Interactive Surface Computer, Journal of Ubiquitous Systems & Pervasive Networks 3 (2), 41-46, 2011.

Scientific conferences and symposia

Conference Title	Place and date of conference	Type of participation
Google EMEA Faculty Summit	September 21 2013, London	Attendant
CSecLab Workshop on Mobile Security 2014	October 2014, Genoa, Italy	Attendant
ACM CCS 2015	October 12-16 2015, Colorado, USA	Presenter

Training courses

Name of course	Date

Teaching activities

Taught Courses	Bachelor	Graduate
Programming in Special Languages	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Theory of Algorithms	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Theory of Algorithms	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Computer Skills 2-scientific	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Distributed Computing	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Network programming	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Data Structures 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Certified Software	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Multimedia Networking	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Computer Networks	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Programming Methodologies	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Membership in scientific and professional bodies and societies

Name and place of scientific body and society	Date
IEEE member	2014

Awards

Name of Award	Donor and place of award	Date
Postdoctoral Erasmus Mundus Scholarship Hermes program	Genoa, Italy	September 2014- June 2015