Ammar Gharaibeh

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Education

Doctor of Philosophy
Computer Engineering Department
New Jersey Institute of Technology
Sept. 2013- Jan 2017
Dissertation Title: Online Algorithms for Content Caching: An Economic Perspective
GPA: 3.83

Master of Science
Computer Engineering Department
Texas A&M University
Jan 2007 – Sept. 2009
Thesis Title: A Behavioral Model of a Built-in Current Sensor for I_{DDQ} Testing
GPA: 3.4

Bachelor of Science
Electrical Engineering Department
Jordan University of Science and Technology
Ranked first among 145 students.
Sept. 2001- Jan 2006
GPA: 86/100

Academic Positions:

- Assistant Professor, German Jordanian University   February 2017 - July 2021
- Associate Professor, German Jordanian University   July 2021 - present

Administrative Positions:

- Head of Computer Engineering Department, German Jordanian University   August 2021 - present

Research Interests

- Wireless Sensor Networks
- Network Optimization.
- Cybersecurity
- AI and Deep Learning Applications

Publications

Journal Papers:

M. AlShawaqfeh, S. Rababah, A. Hayajneh, A. Gharaibeh, and E. Serpedin, "MetaAnalyst: a user-friendly tool for metagenomic biomarker detection and phenotype classification", in BMC Medical Research Methodology, Vol. 22, Issue 1, pp 1—14 2022.

H. Al-Obiedollah, H. Bany Salameh, A. Gharaibeh, K. Cumanan, Z. Ding and O. Dobre, "Harvested Power Fairness based Multi-Carrier NOMA IoT Networks with SWIPT", in IEEE Wireless Communications Letters, DOI: 10.1109/LWC.2022.3227468.

M. Al-Shawaqfeh, A. Gharaibeh, and R. Mesleh, "Tree-Search-Based Optimal and Suboptimal Low Complexity Detectors for Differential Space Shift Keying MIMO System", in IEEE Transactions on Wireless Communications, 2022, doi: 10.1109/TWC.2022.3208079.

M. Al-Shawaqfeh, A. Gharaibeh, and R. Mesleh, "Optimal Low Complexity Detector for Signed-Quadrature Spatial Modulation MIMO System", IEEE Journal on Selected Areas in Communication (JSAC), 2022, DOI: 10.1109/JSAC.2022.3196107.

I. Hababeh, A. Gharaibeh, S. Nofal, and I. Khalil, "An Integrated Methodology for Big Data Classification and Security for Improving Cloud Systems Data Mobility", IEEE Access, Volume 7, pp 9153—9163, 2018.

A. Gharaibeh, I. Hababeh, and M. Al-Shawaqfeh, "An Efficient Online Cache Replacement Algorithm for 5G Networks", IEEE Access, Volume 6, pp 41179--41187, 2018.

A. Khreishah, S. Shao, A. Gharaibeh, M. Ayyash, H. Elgala and N. Ansari, "A Hybrid RF-VLC System for Energy Efficient Wireless Access", IEEE Transactions on Green Communications and Networking, Volume 2, No. 4, pp 932--944, 2018.

A. Al-Fuqaha, A. Gharaibeh, I. Mohammed, S. Hussini, A. Khreishah, "Online Algorithm for Opportunistic Handling of Received Packets in Vehicular Networks", IEEE Transactions on Intelligent Transportation Systems, Volume 20, No. 10, pp 285--296, 2018.

A. Khreishah, H. Bany Salameh, I. Khalil, and A. Gharaibeh "Renewable Energy-Aware Joint Caching and Routing for Green Communication Networks", IEEE Systems Journal, Volume 12, No. 1, pp 768--777, 2018.

A. Gharaibeh, M. Salahuddin, S. Hussini, A. Khreishah, I. Khalil, M. Guizani, and A. Al-Fuqaha, "Smart Cities: A Survey on Data Management, Security and Enabling Technologies", IEEE Communications Surveys & Tutorials, Volume 19, No. 4, pp 2456--2501, 2017.

A. Gharaibeh, A. Khreishah, M. Mohammadi, A. Al-Fuqaha I. Khalil, and A. Rayes, "Online Auction of Cloud Resources in Support of the Internet of Things", IEEE Internet of Things Journal, Volume 4, No. 5, pp 1583--1596, 2017.

A. Khreishah, J. Chakareski, and A. Gharaibeh, "Joint Caching, Routing, and Channel Assignment for Collaborative Small-Cell Cellular Networks", IEEE JSAC Series on Video Distribution over Future Internet, Volume 34, No. 8, pp 2275--2284, 2016.

A. Gharaibeh, A. Khreishah, I. Khalil, and J. Wu, "Distributed Online En-route Caching", IEEE Transactions on Parallel and Distributed Systems, Volume 27, No. 12, pp 345--3468, 2016.

A. Khreishah, J. Chakareski, A. Gharaibeh, I. Khalil, and A. Diabat, "Towards Efficient Operation of Internet Data Center Networks: Joint Data Placement and Flow Control for Cost Optimization", SIMPAT, Elsevier, Volume 64, pp 83--98, 2016.

A. Gharaibeh, A. Khreishah, B. Ji, and M. Ayyash, "A Provably Efficient Online Collaborative Caching for Multicell-Coordinated Systems", IEEE Transactions on Mobile Computing, Volume 15, No. 8, pp 1863--1876, 2015.

Conference Papers:
A. Gharaibeh, O. Badarneh, M. Al-Shawaqfeh, "Optimizing Charging Station Placement in Energy-Harvesting Wireless Sensor Networks", 2nd International Conference on Electrical, Computer, Communications and Mechatronics Engineering, Maldives, November 2022.

M. Al-Shawaqfeh, A. Gharaibeh, and R. Mesleh, "Structured-Sparse Recovery Detectors for Large--Scale Differential Space Shift Keying MIMO System", 2nd European Conference on Communication Systems, Vienna, Austria, May 2022.

F. Shoura, A. Gharaibeh and S. Alouneh, "Optimization of Migration Cost for Network Function Virtualization Replacement", 2020 21st International Arab Conference on Information Technology (ACIT), 6 of October, Giza, 2020, pp. 1-7, DOI: 10.1109/ACIT50332.2020.9300112.

M. Nuimat, A. Gharaibeh and A. Khalifeh, "Joint Routing and Channel Assignment for Throughput Maximization in Mobile Wireless Sensor Networks", 2020 International Conference on UK-China Emerging Technologies (UCET), Glasgow, United Kingdom, 2020, pp. 1-4, DOI: 10.1109/UCET51115.2020.9205449.

O. Mashalh, A. Gharaibeh, and A. Khalifeh, "Bandwidth Usage Forecasting and Network Anomaly Detection Based on Neural Network Approach", In Proceedings of the 2019 3rd International Conference on Advances in Artificial Intelligence (ICAAI 2019).

M. Alshawaqfeh, A. Gharaibeh, and B. Wajid, "A Hybrid Feature Selection Method for Classifying Metagenomic Data in Relation to Inflammatory Bowel Disease", In Proceedings of the 2019 3rd International Conference on Advances in Artificial Intelligence (ICAAI 2019).

M. Alshawaqfeh, and A. Gharaibeh, "Detecting Recurrent Copy Number Variations from aCGH Data via Smoothness-Constrained Models", 2019 16th International Multi-Conference on Systems, Signals & Devices (SSD), pp 28—33, 2019.

A. Gharaibeh, A. Khreishah, and I. Khalil, "An O(1)-Competitive Online Caching Algorithm for Content Centric Networks", In The 35th Annual IEEE International Conference on Computer Communications (INFOCOM), pp 1--9, 2016.

A. Khreishah, J. Chakareski, I. Khalil, A. Gharaibeh, and Y. Jararweh, "Joint Data Placement and Flow Control for Cost-Efficient Data Center Networks", In 6th International Conference on Information and Communication Systems (ICICS), pp 274--279, 2015.

A. Gharaibeh, A. Khreishah, I. Khalil, and J. Wu, "Asymptotically-Optimal Incentive-Based En-Route Caching Scheme", In 11th International Conference on Mobile Ad Hoc and Sensor Systems (MASS), pp 318--326, 2014.

A. Khreishah, I. Khalil, A. Gharaibeh, H. Bany Salameh, and R. Alasem, "Joint Caching and Routing for Greening Computer Networks with Renewable Energy Sources", In International Conference on Future Internet of Things and Cloud (FiCloud), pp 101--106, 2014.

Funded Projects:
- Seed Grant Project, "Accelerating the Decisions of Data Packet Scheduling in Wireless Sensor Networks Using Deep Learning Approach". October 2020 – October 2022. Fund amount: 42000 JD. Project reference number: SEEIT 04/2020. Role: PI.

Committees and Councils:
- Computer Engineering Department Council, School of Electrical Engineering and Information Technology, German Jordanian University.
- School Council, School of Electrical Engineering and Information Technology, German Jordanian University.
- Computer Engineering Department Graduate Studies and Scientific Research Committee.

- University Council, German Jordanian University.

Journal and Conference Reviews:
- Reviewer of the International Conference on Smart Digital Environment (ICSDE) 2017, Rabat Morocco
- Reviewer of the IEEE Intelligent Transportation Systems Transactions.
- Reviewer of the IEEE Transactions on Mobile Computing.
- Reviewer of the IEEE Access Journal.
- Reviewer of IEEE Journal on Selected Areas in Communications.
- PC Chair and Reviewer of the 10th National Technology Parade (NTP 10) 2017, Amman Jordan
- TPC Chair of IEEE 88th Vehicular Technology Conference (VTC) 2018.
- TPC member of the IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT), 2019

Teaching Experience
Course: Network Design and Security (Graduate)
Course: Wireless Communications (Graduate)
Course: Advanced Computer Networks (Graduate)
Course: Network and Communication systems (Graduate)
Course: Computer Networks (Course + Lab)
Course: Operating Systems (Course + Lab)
Course: Computing Fundamentals (Course + Lab)
Course: Network Protocols
Course: Computer Security
Course: Wireless Networks
Course: Data Communication