# Ahmad Rafi Qawasmeh

ahmadr@hu.edu.jo
http://staff.hu.edu.jo/ahmadrq

## Objective

I am looking for a position that strengthens my abilities, improves my research, and enables me to create new relationships to fulfill my work and research demands. Furthermore, helping more people is the best way to get more help and having the desired opportunity is my great aim.

## Education

| | |
|---|---|
| **University:** University of Houston<br>**Location**: Houston, Texas, USA<br>**Starting date**: August 2010<br>**Completion Date:** December 2015<br>**Degree, Major:** PhD Degree, Computer Science<br>**GPA**: 3.6/4.0<br>**Total Hours Earned**: 72 credits that include courses, research, and doctoral dissertation.<br>**Research Area**: OpenMP, Compilers Analysis tools, Parallel and High Performance Computing.<br>**Course Work**: Automata and computability, Compilers, Introduction to HPC, Advanced Computer Architecture, Numerical Analysis, and Parallel Programming Models.<br>**PhD Dissertation Title**: Adaptive Task Scheduling Using Low-Level Runtime APIs and Machine Learning<br>**Advisor**: Dr. Barbara Chapman | **University:** Prairie View A&M University<br>**Location:** Prairie View, Texas, USA<br>**Starting date**: January 2009<br>**Completion Date:** August 2010<br>**Degree, Major:** MS Degree, Computer Science<br>**GPA:** 4.0/4.0<br>**Total Hours Earned**: 36<br>**Course Work:** Computer Architecture, Data Structures, Database Management, Algorithms, Software Engineering, Web Application1-2, Advanced operating System, and some other courses.<br>**Master's Project:** Online Parking Lot Reservation System<br>**Advisor:** Dr. Yi Lu |
| **University:** Yarmouk University<br>**Location:** Irbid, Jordan<br>**Completion Date:** June 2007<br>**Degree, Major:** Bachelor's Degree, Computer Engineering.<br>**Course Work:** C++, Data Structure, Compilers, Object Oriented, Computer Architecture, Networking, Operating System, Database, and more than 25 practical labs. | **High School:** Al-thanaweyeh<br>**Location:** Irbid, Jordan<br>**Completion Date:** June 2002<br>**Degree, Major:** General Secondary Education Certificate Examination.<br>**GPA**: 92.2/100 |

## Research Interests

- **Parallel and high performance computing**
- **Parallel programming and processing**
- **Performance analysis and tools**
- **Machine learning**
- **Compilers and algorithms**

## Honorable Achievements

- **Keynote speech entitled: "Adaptive OpenMP Task Scheduling Using Runtime APIs and Machine Learning". NexTech 2017, Barcelona, Spain, IARIA, https://www.iaria.org/speeches.html.**
- **Chair and Organizer of a special track entitled: "MAML: Multidisciplinary Mobile and Web Applications in Modern Life". In conjunction with the Twelfth International Conference on Advanced Engineering Computing and Applications in Sciences, 2018, Greece. https://www.iaria.org/conferences2018/filesADVCOMP18/MAML.pdf**
- **Reviewer of some manuscripts submitted to journals such as IEEE Access and International Journal of High Performance Computing Applications and others.**

# Publications, Awards, and Certificates

- **Ahmad Qawasmeh, Noor Alhusan, Feras Hanandeh, Maram Al-Atiyat, "A High Performance System for the Diagnosis of Headache via Hybrid Machine Learning Model". International Journal of Advanced Computer Science and Applications, Vol. 11, No. 5, pp. 655-663, 2020, The Science and Information (SAI) Organization.**

- **Mohammad Kharabsheh, Ahmad Qawasmeh , Omar Megdadi, Nadera Jawabreh, Rola Mudallal, Sukaina Alzyoud, "A Critical Analysis of the Relationship between Depression and Smoking Using Machine Learning". INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH, Vol. 8, No. 12, pp. 22-26, 2019, International Journal of Scientific and Technology Research | www.ijstr.org.**

- **Banikhalaf, Mustafa and Manasrah, Ahmad M and AlEroud, Ahmed F and Hamadneh, Nabhan and Qawasmeh, Ahmad and Al-Dubai, Ahmed Y, "A reliable route repairing scheme for internet of vehicles". International Journal of Computer Applications in Technology, Vol. 61, No. 3, pp. 229-238, 2019, Inderscience Publishers (IEL).**

- **Bari, Md Abdullah Shahneous and Malik, Abid M and Qawasmeh, Ahmad and Chapman, Barbara, "Performance and energy impact of OpenMP runtime configurations on power constrained systems", Sustainable Computing: Informatics and Systems. Vol. 23, No. 1, pp. 1-12, 2019, Elsevier.**

- **Ashraf H. Aljammal, Hani Bani-Salameh, Ahmad Qawasmeh, Ayoub Alsarhan, and Ahmed Fawzi Otoom. "A New Technique for Data Encryption Based on Third Party Encryption Server (TPED) to Maintain the Privacy Preserving in the Cloud Environment". International journal of business information systems. Vol. 28, No. 4, pp. 393-403, 2018, Inderscience Publishers (IEL).**

- **Ahmad R. Qawasmeh, Dema Awni, Raghad Mohammed, Rufaida Sabri, Ghydaa Ahmad. "CLINIC: A Web Healthcare Management System for Enhancing Clinical Services", In proceedings of ADVCOMP, pp. 28-32, Nov, 2018, IARIA, Greece.**

- **Bari, Md Abdullah Shahneous and Malik, Abid M and Qawasmeh, Ahmad and Chapman, Barbara. "A detailed analysis of OpenMP runtime configurations for power constrained systems", In proceedings of the 2017 Eighth International Green and Sustainable Computing Conference, pp. 1-8, 2017, IEEE, USA. (Best Paper Award).**

- **Ahmad Qawasmeh, Maxime Hugues, Henri Calandra, and Barbara Chapman. "Performance Portability in Reverse Time Migration and Seismic Modeling via OpenACC". International Journal of High Performance Computi.ng Applications (IJHPCA). Vol. 31, No. 5, pp. 422-440, 2017, SAGE Publications Ltd.**

- **Ahmad R. Qawasmeh, Zohair Obead, Mashal Tariq, Motaz Shamaileh, Ahmad Shafee. "An Interactive Learning Tool for Teaching Sorting Algorithms". In proceedings of ADVCOMP, pp. 34-38, 2017, IARIA, Spain.**

- **Ahmad Qawasmeh, Abid Malik, Barbara Chapman. "Adaptive OpenMP Task Scheduling Using Runtime APIs and Machine Learning". In proceedings of ICMLA, pp. 889-895, 2015, IEEE, Florida, USA.**

- **Ahmad Qawasmeh, Maxime Hugues, Henri Calandra, and Barbara Chapman. "GPU Technology Applied to Reverse Time Migration and Seismic Modeling via OpenACC". In proceedings of PMAM@PPoPP, pp. 75-85, 2015, ACM, CA, USA.**

- **Ghane M., Malik A.M., Chapman B., Qawasmeh Ahmad. "False Sharing Detection in OpenMP Applications Using OMPT API". OpenMP: Heterogeneous Execution and Data Movements, Vol. 9342 of Lecture Notes in Computer Science. 2015, Springer.**

- **Ahmad Qawasmeh, Abid M. Malik, and Barbara M. Chapman. "OpenMP Task Scheduling Analysis via OpenMP Runtime API and Tool Visualization". In proceedings of IEEE 28th International Parallel & Distributed Processing Symposium Workshops (IPDPSW). pp. 1049 - 1058. 2014, IEEE, Arizona, USA.**

- **Anilkumar Nandamuri, Abid M. Malik, Ahmad Qawasmeh and Barbara M. Chapman. "Power and Energy Footprint of OpenMP programs using OpenMP Runtime API". In Proceedings of the 2nd International Workshop on Energy Efficient Supercomputing, pp. 79-88. 2014, IEEE, Louisiana, USA.**

- **Ahmad Qawasmeh, Abid M. Malik, Deepak Eachempati, and Barbara M. Chapman. Poster: "Task Profiling through OpenMP Runtime API and Tool Support". In proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis (SC), Denver, Colorado. November 2013.**

- **Ahmad Qawasmeh, Abid Malik, Barbara Chapman, Kevin Huck, and Allen Malony. "Open Source Task Profiling by Extending the OpenMP Runtime API". In OpenMP in the Era of Low Power Devices and Accelerators (IWOMP), Vol. 8122 of Lecture Notes in Computer Science, pp. 186-199. 2013, Springer.**

- **Ahmad Qawasmeh, Barbara Chapman, and Amrita Banerjee. "A Compiler-Based Tool for Array Analysis in HPC Applications". In proceeding of the 41st International Conference on Parallel Processing Workshops (ICPPW), pp. 454-463, 2012, IEEE, PA, USA.**

- **Best Paper Award at the 2017 IEEE Eighth International Green and Sustainable Computing Conference for the paper entitled: "A detailed analysis of OpenMP runtime configurations for power constrained systems".**

- **Poster Presentation Award (Online Parking Lot Reservation System). 1st Annual STEAM Research Symposium, Jan 2010, TX.**

- **OCA (Oracle Database 10g Certified Associate): August 24, 2008.**

- **SQL Fundamentals (Introduction to Oracle9i): March 16, 2008.**

- **Master's thesis supervision: "A Graphical Decision Support System for the Diagnosis of Primary Headache via Machine Learning.", December, 2018.**

# Experience

---

1. **Organization Name:** The Hashemite University
   **Position:** Assistant professor
   **Department:** Dept. of Computer Science and its applications
   **From:** Jan 2016**. To:** present
   **Reaearch interests:** High Performance Computing and Machine Learning

2. **Organization Name:** University of Houston (main campus), Houston, TX.
   **Position:**
   - **1-** Instructor for the Computer Organization and Architecture, MIPS assembly programming, and C++ undergraduate courses. (January 2015-Dec 2015).
   - **2-** PhD Graduate Research Assistant (Sep 2011-Dec 2015)
   - **3-** Teaching Assistant and Lecturer for the Shared Memory Programming course (Spring 2012, Spring 2013, Spring 2014).
   - **4-** Teaching Assistant for the graduate Advanced Database systems course (Spring 2011).
   - **5-** Teaching Assistant for the undergraduate Data Structures and Algorithms course (Fall 2010)

3. **Organization Name:** Total E&P USA, Houston, TX
   **Position:** PhD Intern in GPU programming
   **Department:** Research and Technology
   **From:** June 2013**. To:** August 2013 & **From:** May 2014**. To:** August 2014
   **Work description:** Carried a position as an intern working on GPU programming models (OpenACC, HMPP), Distributed memory programming models (MPI), and shared memory programming model (OpenMP) to optimize seismic image applications: Reverse Time Migration and Seismic modeling.

4. **Organization Name:** Prairie View A&M University, Prairie View, TX
   **Position:** Mater's Graduate Research and Teaching Assistant
   **Department:** Computer Science
   **From:** January 2009**. To:** August 2010
   **Work description:** Carried a position in the Department of Engineering as a Teaching Assistant instructing Introduction to Computer Science, Introduction to Computer Education, and C++ lab, the responsibilities I was entitled to include tutoring, after hour office hours, and a clear reported grading system. I played a major role in a project to design a web application (Online Parking Lot Reservation System) for the university which combined Oracle Database 10g with Java Net Beans 6.0. I also did some research in Scientific Workflow and Database.

5. **Organization Name:** Optimiza Company, Amman, Jordan
   **Position in Company:** Oracle Support Specialist and Database Administrator (DBA)
   **From:** January 2008. **To:** December 2008
   **Company Industry:** Computer, Software and Engineering
   **Work Description:** Carried a position as an Oracle DBA, Application Server and Developer with tasks that include: Installation, Maintenance, Tuning, Backup, Recovery, and Coding under different operating systems such as UNIX, Linux, and Windows.

## Computer and Programming skills

- **Shared memory programming models: OpenMP and Pthreads.**
- **GPU Programming Models: PGI Accelerator Directives, OpenACC, HMPP, and basics of CUDA.**
- **Distributed Memory Programming Models: MPI (Message Passing Interface)**
- **Server Languages: C++, Fortran, PHP, Java, C, MIPS Assembly, PL_SQL 10g.**
- **Client Languages: JavaScript, XML, CSS, DTD, and HTML.**
- **Database Languages: Oracle Database (10g, 9i), MYSQL, SQL Server 2000.**
- **Hardware language: VHDL using Xilinx ISE and ModelSim.**
- **Version Control Systems: git and SVN**
- **Writing SRS and SDS documents in Software Engineering.**
- **Design Use Cases and Activity Diagrams.**
- **Writing scientific papers using Latex.**

## Training Courses and Volunteer Work

- **Volunteering at the ASPLOS 2013 conference. Houston, TX, March 2013.**
- **Oracle Developer 10g training course at Optimiza Company. Jordan, 2008.**
- **Oracle DBA (Database Administration Workshop 1, 2): Optimiza Company, Jordan, 2008.**
- **Six months of training as a developer and business analyst at ESTARTA Company. This was part of my Bachelor's degree. I worked on web applications using ASP.NET (C#) and SQL Server. I also worked on UML activity diagrams. Jordan, 2007**