



## Mo'taz A. Al-Hami

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**Contact Information**      The Hashemite University      +962 79 093 0707  
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P.O Box 330052

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**Research Interests**      **Artificial Intelligence:** Computer Vision, Multimedia, 3D Modeling, Data Science, Machine Learning, Deep Learning, Robotics.

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**Education**      **Temple University**, Philadelphia, PA, USA.

Ph.D., Computer Science, 2016.

- Thesis Topic: *Towards a Better Pose Understanding for Humanoid Robots*
- Advisors: Rolf Lakaemper, Ph.D

**Jordan University of Science and Technology**, Jordan.

MSc, Computer Science, May 2006

- Topic: *Prediction of Protein Secondary Structures of Proteins Contact Maps*

**Al al-Bayt University**, Jordan.

BSc, Computer Science, May 2003.

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## Publications

1. **M. Al-Hami**, R. Casas, S. El-Salhi, S. Awwad, F. Hussein "Real-Time Bird's Eye Surround View System: An Embedded Perspective.", Applied Artificial Intelligence, 2021.
2. **M. Al-Hami**, M. Maabreh, S. Taamneh, A. Pradeep, H. Bani SalemeH "Apache Hadoop Performance Evaluation with Resources Monitoring Tools, and Parameters Optimization: IoT Emerging Demand ", Journal of Theoretical and Applied Information Technology, 2021.
3. H. Bani-Salameh, S. Alkhatib, M. Abdalla, **M. Al-Hami**, R. Banat, H. Zyod, A. Alkhatib "Prediction of Diabetes and Hypertension using Multi-Layer Perceptron Neural Networks. ", International Journal of Modeling, Simulation, and Scientific Computing, 2020.
4. Y. Hamdan, **M. Al-Hami**, S. El-Salhi "Towards a Direct Mental Based Decision Making: Electroencephalography (EEG) Case Study. "The 11<sup>th</sup> International Conference on Information & Communication Systems, Jordan, 2020.
5. S. El-Salhi, F. Farouq, R. Obeidallah, **M. Al-Hami** "On Developing an Integrated Family Mobile Application. "International Journal of Advanced Computer Science and Applications(IJACSA), volume 10, SAI 2019.

6. **M. Al-Hami**, M. Pietron, R.A. Casas, M. Wielgosz "Methodologies of Compressing a Stable Performance Convolutional Neural Networks in Image Classification." *Journal of Neural Processing Letters*, Springer 2019.
7. **M. Al-Hami**, R. Lakaemper, M. Rawashdeh, and M. Shamim "Camera Localization for Human Poses in 3D Space Using a Single 2D Human-Pose Image With Landmarks: A Multimedia Social Network emerging Demand." *Journal of Multimedia and Applications*, Springer 2018.
8. **M. Al-Hami**, M. Pietron, R. Kumar, R.A. Casas, S.L. Hijazi, C. Rowen "Method for Hybrid Precision Convolutional Neural Network Representation". Cadence Design Systems 2018, USA.
9. **M. Al-Hami**, M. Pietron, R. Casas, S. Hijazi, P. Kaul "Towards a Stable Quantized Convolutional Neural Networks (CNNs): An Embedded Perspective". The International Conference on Agents and Artificial Intelligence (ICAART) 2018, Portugal.
10. **M. Al-Hami**, and R. Lakaemper "Reconstructing a Representative 3D Human-Pose Using Query Keywords". International Conference on 3D Vision 2017, China.
11. **M. Al-Hami** "Towards a Better Pose Understanding for Humanoid Robots". Temple University, 2016, USA.
12. **M. Al-Hami**, and R. Lakaemper "Towards Human Pose Semantic Synthesis in 3D Based On Query Keywords." *10<sup>th</sup> International Conference on Computer Vision Theory and Application, VISAPP 2015*, Berlin.
13. S. Lin, G. Zhou, **M. Al-Hami**, Y. Wu, K. Whitehouse, J. A. Stankovic, X. Wu. "Towards Stable Network Performance in Wireless Sensor Networks: A Multilevel Perspective." *ACM Transactions on Sensor Networks (ACM TOSN)*, 2015.
14. **M. Al-Hami**, and R. Lakaemper "Sitting Pose Generation Using Genetic Algorithm for NAO Humanoid Robots." *IEEE International Workshop on Advanced Robotics and its Social Impacts*, 2014.
15. K. Georgiev, **M. Al-Hami**, and R. Lakaemper "Real-time 3D scene description using Spheres, Cones and Cylinders." *16th International Conference on Advanced Robotics (ICAR)*, 2013.
16. **M. Al-Hami**, A. Khreishah, and J. Wu "Video Streaming over Wireless LAN with Network Coding." *12th IEEE International Symposium on Network Computing and Applications (NCA)*, 2013.
17. A. Al-Badarneh, M. Khalil, and **M. Al-Hami** "Improving protein 3D structure prediction accuracy using dense regions areas of secondary structures in the contact map." *American Journal of Biochemistry and Biotechnology*, 2008.

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## Posters

1. **M. Al-Hami** "Bird's Eye Surround View Camera System." *Interns Showcase*, Cadence Design Systems, San Jose, CA 2015.
  2. **M. Al-Hami** "Towards Human Pose Semantic Synthesis in 3D Based On Query Keywords." *ACM Future of Computing*, Temple University, 2014.
  3. K. Georgiev, and **M. Al-Hami** "Real-time 3D scene description using Spheres, Cones and Cylinders." *ACM Future of Computing*, Temple University, 2013.
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## Awards

1. Best TA award in the College of Science and Technology (CST), Temple University, 2015.
  2. Travel grant to attend ARSO 2014, Illinois.
  3. Most Popular Project Prize, "Towards Human Pose Semantic Synthesis in 3D Based On Query Keywords." *ACM Future of Computing*, Temple University, 2014.
  4. Silver Prize, "Towards Human Pose Semantic Synthesis in 3D Based On Query Keywords." *ACM Future of Computing*, Temple University, 2014.
  5. Bronze Prize, "Real-time 3D scene description using Spheres, Cones and Cylinders." *ACM Future of Computing*, Temple University, 2013.
  6. Scholarship from Cadence Design Systems, 2015 - 2016.
  7. Scholarship from The Hashemite University, 2012 - 2014.
  8. Scholarship from Temple University, 2012 - 2015.
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## Presentations

1. "Big Data: Concept & Applications., Series on Digitization, DHBW Karlsruhe, Germany. Nov 2020."
  2. "Deep Learning: the Heart of the Smart Systems.", Career center, The Hashemite University, Zarqa, Jordan. Nov 2019.
  3. "Big Data & Artificial Intelligence: Challenges & Opportunities.", Career center, The Hashemite University, Zarqa, Jordan. Nov 2019.
  4. "Topics in Computer Vision & Robotics.", Material Handling Systems (MHS). Louisville, KY, USA. Aug 2019
  5. "Sitting Pose Generation Using Genetic Algorithm for NAO Humanoid Robots.", ARSO 2014, Evanston, IL, USA. Sep 2014
  6. "Towards A Better Pose Understanding for Humanoid Robots.", Temple University, Philadelphia, PA, USA. Jun 2014
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## Academic Experience

Assistant Professor,  
Department of Computer Information Systems,  
**The Hashemite University.**

Spring 2017–Present

- CS 111001460 - Introduction to Artificial Intelligence.
- CS 151001100 - Introduction to Programming (C++).
- CS 151001101 - Object Oriented Programming I (Java).
- CS 151002240 - System Analysis and Design.
- CIS 151002240 - Information Technology Systems.

Teaching/ Research Assistant Spring 2011 - Spring 2016  
Department of Computer Information Sciences,  
**Temple University**.

- CIS 2033 - Introduction to Probability and Statistics.
- CIS 0835 - Cyberspace and Society.
- CIS 1068 - Program Design and Abstraction (Java Programming).
- CIS 2168 - Data Structures.
- CIS 1166 - Mathematical Concepts in Computing I.
- CIS 4362 - Application System Development Using Relational Technology.

Instructor Sep 2008 - May 2011  
Faculty Staff Member,  
Department of Computer Science,  
**Sur University College**, Sultanate of Oman.

Instructor Sep 2006 - May 2008  
Faculty Staff Member,  
Department of Computer Science,  
**Zarqa University**, Jordan.

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**Managerial  
Experience**

**Center of Big Data & Artificial Intelligence.** Oct 2019 - 2020  
Director of the Center. **The Hashemite University**, Jordan.

Zarqa University Library Dec 2007 - May 2008  
Library Head Assistant,  
**Zarqa University**, Jordan.

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**Industry  
Experience**

**(Two Mountains: Psy-Tech (HK) LTD).** January 2018 - Present  
AI Consultant (Researcher).  
**(Cadence Design Systems).** January 2018 - Present  
AI Consultant (Researcher).  
**(Cadence Design Systems).** January 2016 - December 2017  
**Hardware and Computer Vision Engineer:** Deep learning Engineer for Convolutional  
Neural Networks (CNNs).  
**(Cadence Design Systems).** September 2015 - December 2015  
**Hardware and Computer Vision Engineer:** Port bird's eye view algorithm  
using IVP-EP DSP. San Jose, California.  
**(Cadence Design Systems).** Jun 2015 - September 2015  
**Hardware and Computer Vision Engineer:** Develop and implement bird's eye  
view algorithm for ADAS. San Jose, California.

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**Participations**

**(Lecture Series on Digitization).** Nov 2020  
Series of online lectures with an international approach both lecturers and students  
participating from different countries, DHBW Karlsruhe, Germany.

- (ICICS 2020).** Apr 2020  
The 11th International Conference on Information and Communication Systems, Irbid, Jordan.
- (NQF-J 2019).** Jan 2019  
The European Association for Quality Assurance in Higher Education (ENQA), Brussels, Belgium.
- (ICAART 2018).** Jan 2018  
The 10th International Conference on Agents and Artificial Intelligence, Funchal/ Madeira, Portugal.
- (3DV 2017).** Oct 2017  
The 5th international conference on 3D Vision, Qingdao, China.
- (METHODS 2017).** May 2017  
Modernization of Teaching Methodologies in Higher Education: Eu Experience For Jordan And Palestinian Territory (METHODS), Dead Sea, Jordan.
- (VISAAP 2015).** Mar 2015  
the 10th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications, Berlin, Germany.
- (IROS 2014).** Sep 2014  
IEEE/RSJ International Conference on Intelligent Robots and Systems, Chicago, IL.
- (ARSO 2014).** Sep 2014  
IEEE Workshop on Advanced Robotics and its Social Impacts, Evanston, IL.
- GALATEA RESET Season II, NewYork** Nov 2014  
Humans-Robots Opera: A work of lyric theater for singers and robots, treats the mythological characters Acis, Galatea, Polyphemus and Pygmalion and the multiple paths of their stories through history.
- GALATEA RESET Season I, Temple University** Sep 2013  
Humans-Robots Opera: A work of lyric theater for singers and robots, treats the mythological characters Acis, Galatea, Polyphemus and Pygmalion and the multiple paths of their stories through history.
- **Act 01**
  - **Act 02**
- Proceedings of the 2007 MIT LINC Conference** Nov 2007  
Technology-Enabled Education: A Catalyst for Positive Change.  
Dead Sea/ Dubai.
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## Projects

- Two Mountains** Aug 2018  
Two Mountains has developed a new, stop-smoking method based on the latest psychological research. This stop-smoking program was created with the specific intentions of helping any smoker to quit smoking in the least difficult way possible. The X-pedition1, a patented vape unit with timers and a counter, gives useful information about the amount of nicotine being consumed. Combined together with the Two Mountains Stop-Smoking APP, these are powerful tools that increase your chances of quitting smoking successfully.  
1506 Lucky Center, 165-171 Wan Chai Road, Hong Kong China.  
732 Pasadena Ave, Winnipeg R3T 2T3 Canada.  
38 Helm Drive, Kendal LA9 7JB United Kingdom.

### **Neural Network Enhanced DSP**

Jan 2016

During my work at Cadence Design Systems, I joined Tensilica group. The group works on handling the complex embedded vision and artificial intelligence (AI) digital signal processing functions in mobile handsets, drone, automotive, surveillance, and augmented reality (AR) / virtual reality (VR) markets.

San Jose, California.

### **Bird's Eye Surround View System**

July 2015

Advanced Driver Assistance Systems (ADAS) are one of the fastest growing segments of the automotive market. ADAS improve a drivers control of the vehicle by providing real-time enhanced visualization and interaction with the surrounding environment. Birds-eye Surround View (SV) is a type of ADAS which integrates multiple lateral cameras to produce a virtual birds-eye (i.e. top down) view in real time.

San Jose, California.

### **Galatea Reset: An opera performed by autonomous robots and people**

Sep 2013, Nov 2014

In this project, I was working with Dr. Rolf Lakaemper who was responsible for the technological side (the autonomous robots). The technological challenge in this project is to operate three fully autonomous mobile robots on a stage, which is also populated with up to 20 people. The robots, which are driving platforms in costumes, are equipped with laser sensors to scan the environment for localization and navigation purposes. During the show, the robots were operating without human intervention. They connected wirelessly to a server for time synchronization between their localization software, the background music and the human performers. The opera was performed at Temple University in 2014, and in Manhattan NY in 2015.

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## **Committees**

**The Hashemite University Council - The Hashemite University** Sep 2020  
- Present

**IT College Council - The Hashemite University** Sep 2020 - Present

**Students Violations Committee - The Hashemite University** Sep 2019 -  
Sep 2020

**E-Learning National Committee for Jordan - The Hashemite University  
representative** Jan 2020 - Oct 2020

The goal of this committee is to implement and draw the guidelines of the e-learning in the jordanian universities, and ensure the safety and privacy.

**ABET Accreditation - The Hashemite University** Sep 2018 - Sep 2020

ABET accreditation provides assurance that a college or university program meets the quality standards of the profession for which that program prepares graduates.

**Students Advising Committee - The Hashemite University** Sep 2018 -  
Present

Plan, monitor, and evaluate all functions related to academic advising to include the advising of students, registration processes.

**CyberSecurity Program Plan Committee - The Hashemite University**  
2018/2019

Choose the required courses for this program.

- Technical Skills**
- Languages: C, C++, Java, Visual Basic, Python, Matlab, Oracle PL/SQL.
  - Data Mining Toolkits: Weka.
  - Computer Vision and Robotics Libraries: ROS, OpenCV.
  - Operating Systems: Windows, Unix.
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- Memberships**
- IEEE Member.
  - ACM Member.
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- References**
- Rolf Lakaemper.  
Associate Professor,  
CIS Department  
Temple University.  
Phone: 215-869-6579  
E-mail: lakamper@temple.edu
- Raul Casas.  
Design Engineering Architect,  
IPG CTO  
Cadence Design Systems.  
Phone: 267-261-9873  
E-mail: rcasas@cadence.com
- Samer Hijazi.  
Design Engineering Director,  
IPG CTO  
Cadence Design Systems.  
Phone: 484-893-0045  
E-mail: shijazi@cadence.com