

# Ahmad B. A. Hassanat, Professor

## *Curriculum Vitae*

### Contact Information

Department of Information Technology  
Faculty of Science  
University of Mutah  
P.O.Box 7  
Karak 61710  
Jordan

**Email :** [ahmad.hassanat@gmail.com](mailto:ahmad.hassanat@gmail.com),  
[hasanat@mutah.edu.jo](mailto:hasanat@mutah.edu.jo)

**Tel. :** +962-(0)-32372380 ext-4321

**Mobile:** +962-(0)-798897192

**Face book:** <https://www.facebook.com/ahmadba.hassanat>

**Married with 2 children**

**IEEE member:**

<https://ieeecollabratec.ieee.org/app/p/AhmadHassanat529261>

<https://www.mutah.edu.jo/biometrix>

<https://scholar.google.com/citations?user=0iOlrxsAAAAJ&hl=en>

[https://www.researchgate.net/profile/Ahmad\\_Hassanat](https://www.researchgate.net/profile/Ahmad_Hassanat)

<http://orcid.org/0000-0002-9991-304X>

*Scopus Author ID: [24343672100](#)*

**Web of Science Researcher ID: [L-3820-2018](#)**

### Education

**2007-2010: PhD. in Computer Science**, University of Buckingham, UK. Thesis Title “visual words for automatic lip-reading”

**2002-2004: MSc. in Computer Science**, Al al-Bayt University, Jordan, Thesis Title “Fast String Searching Algorithms”.

**1991-1995: B.Sc. in Computer Science**, Mutah University, Jordan. Undergraduate project: a database system for the royal Jordanian air forces computer stores.

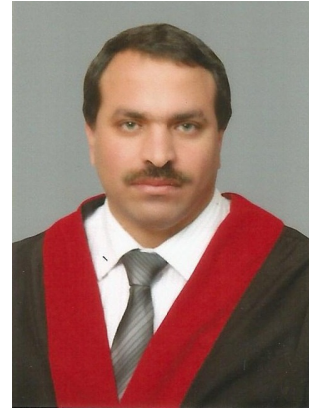
**1990-1991: Scientific Stream High School**, Petra, Jordan.

### Thesis

Ahmad Hassanat: *Visual Words for Automatic Lip- Reading*. 12/2009, Degree: PhD, Supervisor: Sabah Jassim.

Ahmad Hassanat: *Fast String Matching Algorithms*. Al - Albayt University, 07/2004, Degree: Master, Supervisor: Ismail Abbabnih.

### Research and work Experience



*Sep 2019 - present*      **Full professor**  
**University of Tabuk, Tabuk, Saudi Arabia.**

*Jun 2016 – Sep 2016*      **Visiting research, and ongoing post doctoral.**  
Sarajevo School of Science and Technology, Bosnia and Herzegovina

*Jul 2019– Sep 2019*      **Full professor**  
Mu'tah University, Karak City, Jordan

*Jul 2015 – Jul 2019*      **Associate professor**  
Mu'tah University, Karak City, Jordan

*Sep 2011-Sep 2013*      **Head of IT Department**  
Mu'tah University, Karak City, Jordan

*Jul 2010 – Jul 2015*      **Assistant professor**  
Mu'tah University, Karak City, Jordan

*Dec 2006 – Jun 2010*      **PhD research project- Automatic lip Reading + Part time lecturer**  
The University of Buckingham, Department of Applied Computing  
Buckingham, United Kingdom

*Jan 2002 – Jul 2004*      **Master degree research project/ String matching**  
Al - Albayt University, Prince Hussein bin Abdullah Faculty of Information  
Technology  
Al Mafraq, Jordan

*Sep 2004- Nov 2006*      **Instructor and computer programmer**  
Mutah University-Military wing, Karak City, Jordan

*Jul 1995 – Nov 2006*      **Several jobs related to ICT including: computer programmer and system analyst.**  
Jordanian Armed Forces (JAF), the Arab Army,  
Amman, Jordan

*During the JAF service I Created or Participated in creating the following systems:*

1. JAF Man Power system, using COBOL & DMSII database.
2. Drafts system, using COBOL & DMSII database.
3. JAF Housing system, using Oracle database.
4. JAF stores & Warehouse system, using Oracle database.
5. [www.jaf.mil.jo](http://www.jaf.mil.jo) web site development, using ASP, Java scripts.
6. Passports system in the Royal Jordanian Airport special Security Unit.
7. File conversion system, using visual basic for the finance department data.
8. JAF telephone #No & Lines maintenance using Access db.
9. JAF planning system using Oracle db.
10. Chat system for [www.jaf.mil.jo](http://www.jaf.mil.jo)
11. JAF General inspector system and database using SQL2000 server.
12. Some systems for the JAF military intelligence directorate.
13. Mutah university/military branch library system (Barcode), using MS SQL2000 server.
14. Mutah university/military branch website.
15. Mutah university/military branch Manpower system.
16. etc.

## **Publication Highlights**

## **Books**

- 1- Ahmad **Hassanat**: *Automatic Lip-Reading System: Using Visual Words*. Automatic Lip-Reading System: Using Visual Words, 1st 01/2011; LAP LAMBERT Academic Publishing., ISBN: 3844310797
- 2- Ahmad **Hassanat**, Mouhammd Alkasassbeh, Mustaf Hammad, *Computer skills*, e-book, Mutah University, 2016

### Book Chapters

- 3- Ahmad **Hassanat**: *Visual Speech Recognition*. Speech and Language Technologies, 1 edited by Prof. Ivo Ipsic, 06/2011: chapter 14 Visual Speech Recognition: pages 279-303; InTech., ISBN: 978-953-307-322-4

### Journal Publications

- 4- Mouhammd Alkasassbeh, Ghada A. Altarawneh and Ahmad **Hassanat**: *On Enhancing The Performance Of Nearest Neighbour Classifiers Using **Hassanat** Distance Metric*. Canadian Journal of Pure and Applied Sciences. 02/2015; 9(1).
- 5- Ahmad **Hassanat**, Ghada A. Altarawneh: *Rule-and Dictionary-Based Solution for Variations in Written Arabic Names in Social Networks, Big Data, Accounting Systems and Large Databases*. Research Journal of Applied Sciences, Engineering and Technology 2014; 8(14).
- 6- Ahmad **Hassanat**: *Bypassing Captcha By Machine A Proof For Passing The Turing Test*. European Scientific Journal. 09/2014; 10(15).
- 7- Ahmad **Hassanat**, Mohammad Ali Abbadi, Ghada Awad Altarawneh, Ahmad Ali Alhasanat: *Solving the Problem of the K Parameter in the KNN Classifier Using an Ensemble Learning Approach*. International Journal of Computer Science and Information Security. 2014; 12(8):33-39.
- 8- Ahmad **Hassanat**: *Dimensionality Invariant Similarity Measure*. Journal of American Science. 08/2014; 10(8):221-226.
- 9- Ahmad **Hassanat**, Ghada Awad Altarawneh: *Gambling-free lottery, a new Islamic lending ticket*. Journal of Islamic Accounting and Business Research. 2015; 6(1).
- 10- Ahmad **Hassanat**: *Visual Passwords Using Automatic Lip Reading*. International Journal of Sciences: Basic and Applied Research (IJSBAR) 2014; 13(1):218-231.
- 11- Al-Kasassbeh, M and Al-Naymat, Gh, **Hassanat**, A and Almseidin, M, *Detecting Distributed Denial of Service Attacks Using Data Mining Techniques*, International Journal of Advanced Computer Science and Applications, 2016, 7(1).
- 12- Ahmad **Hassanat**, Mouhammd Alkasassbeh, Mouhammd Al-awadi, Esra'a A.A. Alhasanat, *Color-Based Object Segmentation Method Using Artificial Neural Network*, Simulation Modelling Practice and Theory, Elsevier, Vol. 64, pp. 3–17, 2016.
- 13- Ahmad **Hassanat**, Ahmad S Tarawneh, *Fusion of Color and Statistic Features for Enhancing Content-Based Image Retrieval Systems*, Journal of Theoretical and Applied Information Technology, Vol. 88, No. 3, 2016.
- 14- Ahmad B. A. **Hassanat**, Esra'a Alkafaween, Nedal A. Al-Nawaiseh, Mohammad A. Abbadi, Mouhammd Alkasassbeh, Mahmoud B. Alhasanat, *Enhancing Genetic Algorithms using Multi Mutations: Experimental Results on the Travelling Salesman Problem*, International Journal of Computer Science and Information Security; Vol. 14. No. 7, (Jul 2016): 785-801
- 15- Alex de Voogt, Ahmad B.A. **Hassanat**, Mahmoud B. Alhasanat, *The History and Distribution of ṭāb: A Survey of Petra's Gaming Boards*, Journal of Near Eastern Studies, Vol. 76, No. 1, pp. 93-101. 2017.
- 16- Ahmad B. A. **Hassanat**, Esra'a Alkafaween, *On Enhancing Genetic Algorithms Using New Crossovers*, International Journal of Computer Applications in Technology, issue 55, 2017

- 17- A. B. **Hassanat**, V. B. S. Prasath, K. I. Mseidein, M. Al-awadi, A. M. Hammouri. *A hybrid wavelet-shearlet approach to robust digital image watermarking*, Special Issue on "End-user Privacy, Security, and Copyright issues, Informatica, Vol. 41, No. 1, pp. 3-24, 2017.
- 18- A. B. **Hassanat**, V. B. S. Prasath, B. M. Al-Mahadeen, S. M. M. Alhasanat. *Classification and gender recognition from veiled-faces*. International Journal of Biometrics, 9(4), 2017.
- 19- A. B. **Hassanat**, V. B. S. Prasath, E. Alkafaween, E. Y. Abunawas, A. M. Hammouri. *Choosing mutation and crossover ratios for genetic algorithms - A review with a new dynamic approach*. [to appear in] Informatica, 2018.
- 20- Ahmad **Hassanat**, et. al., *Magnetic energy-based feature extraction for low-quality fingerprint images*, Signal, Image and Video Processing, Springer, 12(8), 2018.
- 21- Ahmad **Hassanat**, et. al., *On solving the period problem for the moving average forecasting*, in progress.
- 22- Ahmad **Hassanat**, *On Identifying Terrorists Using Their Victory Signs*, Data Science Journal, vol 17. 2018.
- 23- Ahmad B.A. **Hassanat**, et al. *On computerizing the ancient game of tab*, International Journal of Gaming and Computer-Mediated Simulations (IJGCMS), IGI Global, 10(3), 2018.
- 24- Ahmad B.A. **Hassanat**, *Spatial filter for noise removal in digital images*, 2016, in progress.
- 25- Ahmad B. A. **Hassanat**, V. B. Surya Prasath, Haneen Arafat Abu Alfeilat, Omar Lasassmehy, , *Distance and Similarity Measures Effect on the Performance of K-Nearest Neighbor Classifier: A Review*, Big Data Journal, 2019.
- 26- Ahmad B. A. **Hassanat**, *Greedy Algorithms for Approximating the Diameter of Machine Learning Datasets in Multidimensional Euclidean Space: Experimental Results*, Advances in Distributed Computing and Artificial Intelligence Journal, 7(3), 2018
- 27- Ahmad B. A. **Hassanat**, *Norm-Based Binary Search Trees for Speeding Up KNN Big Data Classification*, Computers, MDPI, 7(4), 2018.
- 28- Ahmad B. A. **Hassanat**, *Two-Point-Based Binary Search Trees for Accelerating Big Data Classification using KNN*, PLOS ONE, 2018.
- 29- Ahmad B. A. **Hassanat**, *Furthest-pair-based binary search tree for speeding big data classification using k-nearest neighbors*, Big Data, 6(3), 2018.
- 30- Ahmad B. A. **Hassanat**, *Datasets and Dictionary for different writing forms of Arabic names*, submitted to Data in Brief, 2018
- 31- Ahmad B. A. **Hassanat**, *Arabic-Names Dictionary for different writing forms of Arabic names*, submitted to Data in Brief, 2018
- 32- Esra'a Alkafaween, Ahmad **Hassanat**, *Improving TSP Solutions Using GA with a New Hybrid Mutation Based on Knowledge and Randomness*, submitted to IJIT, IGI Global, 2018.
- 33- Ahmad B. **Hassanat**, V. B. Surya Prasath, Mohammed Ali Abbadi, Salam, Amer Abu-Qdari, Hossam Faris, *An Improved Genetic Algorithm with a New Initialization Mechanism Based on Regression Techniques*, Information, MDPI, 9(7), 2018.
- 34- Ahmad B. **Hassanat**, *Furthest-Pair-Based Decision Trees: Experimental Results on Big Data Classification*, Information, MDPI, 9(11), 2018.
- 35- Abu Alfeilat, H. A., **Hassanat**, A. B., Lasassmeh, O., Tarawneh, A. S., Alhasanat, M. B., Eyal Salman, H. S., & Prasath, V. S. *Effects of Distance Measure Choice on K-Nearest Neighbor Classifier Performance: A Review*. Big Data.7 (3), 2019,

- 36- M. B. Alhasanat, W. M. A. Wan Hussin, Ahmad **Hassanat**: *Combining Multi-frequency GPR Images and New Algorithm to Determine the Location of Non-linear Objects with Civil Engineering Applications*. Electromagnetics Research Symposium, Marrakesh, Morocco; 03/2011
- 37- Ahmad **Hassanat**: *Automatic lip reading for security*. 1st International Conference on Biomedical Engineering, Electronics and Nanotechnology (MIC-BEN2011), Amman, Jordan; 01/2011
- 38- Ahmad **Hassanat**, S. Jassim: *Visual words for lip-reading*. SPIE; 04/2010
- 39- Ahmad **Hassanat**, S. Jassim: *Color-based Lip Localization Method*. SPIE; 01/2010
- 40- Ahmad **Hassanat**, S. Jassim: *A special purpose knowledge-based face localization method*. SPIE; 01/2008
- 41- Ahmad **Hassanat**, Mouhammd Alkasassbeh, Mouhammd Al-awadi, Esra'a A.A Alhasanat: *Colour-based lips segmentation method using artificial neural networks*, IEEE Information and Communication Systems (ICICS), Amman, Jordan; 04/2015.
- 42- Ahmad **Hassanat**, Mouhammd Al-Awadia, Eman Btousha, Amani Al- Btoush, Esra'a Alhasanata, Ghada Altarawneh, *New Mobile phone and Webcam Hand Images Databases for Personal Authentication and Identification*, 6th International Conference on Applied Human Factors and Ergonomics (AHFE 2015), Las Vegas, USA, 07/2015.
- 43- Ahmad **Hassanat**, et. al., *Victory Sign Biometric for Terrorists Identification*, IEEE Information and Communication Systems (ICICS), Irbid, Jordan; 04/2017.
- 44- Tarawneh, A.S., Chetverikov, D., Chaman, V., **Hassanat**, A.B. *Stability and Reduction of Statistical Features for Image Classification and Retrieval*, IEEE Information and Communication Systems (ICICS), Irbid, Jordan; 04/2018.
- 45- Ahmad S. Tarawneh, Ahmad **Hassanat**, Dmitry Chetverikov, *Pilot Comparative Study of Different Deep Features for Palmprint Identification in Low-Quality Images*, Conference, Ninth Hungarian Conference on Computer Graphics and GeometryAt: Budapest, Hungary, 2018
- 46- Ragaad AlTarawneh, Manal AlKhoshrman, Yousef Nabeel, Shah Rukh Humayoun, Ahmad **Hassanat**, *The Story of Designing an Educational Mobile Application for Children in South of Jordan*, 31st British Human Computer Interaction Conference, UK, 2017.
- 47- G Al-Naymat, M Al-Kasassbeh, A **Hassanat**, A Al-Tarawneh, *Dynamics-Based Approach for Accurate User Identification and Authentication using Machine Learning Techniques*, International Conference on Information Technology and Applications, Australia, 2016.
- 48- A. Tarawneh, A. **Hassanat**, D. Chetverikov, I. Lendak, C. Verma, *Invoice Classification Using Deep Features and Machine Learning Techniques*, IEEE International Joint Conference on Electrical Engineering and Information Technology (JEEIT), Amman, Jordan, 2019.
- 49- M. Al-Shamaileh, A. **Hassanat**, A. Tarawneh, M.S. Rahman, *New Online/Offline Text Dependent Arabic Handwriting Database for Writer Authentication and Identification*, IEEE ICICS2019, Ibid, Jordan, 2019.
- 50- Audi Al-Btoush, Ahmad **Hassanat**, Ahmad Tarawneh, Surya Prasath and Asad Hasanat, *New Features for Eye-Tracking Systems: Preliminary Results*, IEEE ICICS2019, Ibid, Jordan, 2019.
- 51- Ahmad Tarawneh, Ahmad **Hassanat**, Ceyhun Celik, Dmitry Chetverikov, M. Sohel Rahman and Chaman Verma, *Deep Face Image Retrieval: a Comparative Study with Dictionary Learning*, IEEE ICICS2019, Ibid, Jordan, 2019.

### Technical Reports

- 52- Ahmad **Hassanat**, *Mutahpedia*, Mutah University, 2012
- 53- Ahmad **Hassanat**, *A study about constructing a master program in computer science at MU*, Mutah University, 2013

- 54- Ahmad **Hassanat**, *A study about the establishment of a Faculty of Information Technology at MU*, Mutah University, 2013
- 55- Ahmad **Hassanat**, *A study about the establishment of a computer diploma program for the University of Buraimi in Sultanate of Oman under the supervision of MU*, Mutah University, 2013

### Research Interests

Image processing & analysis  
 Visual speech recognition  
 Biometrics  
 Object and pattern recognition  
 Artificial intelligence  
 Machine learning  
 Evolutionary Algorithms

### Reviewer for:

1. Journal of Image and Vision Computing, Elsevier, IF: 1.587
2. Signal, Image and Video Processing, Springer, IF: 1.430
3. KSII Transactions on Internet and Information Systems, Korean Society for Internet Information, IF: 0.5
4. Journal of King Saud University - Computer and Information Sciences, Scopus indexed.
5. EURASIP Journal on Advances in Signal Processing, Springer, IF:0.928
6. Reviewer and member of the technical program committee for the ICICS2018 Conference, an IEEE sponsored conference.
7. Chair of AI and Machine Learning track of ICICS2019 IEEE sponsored conference, Irbid Jordan.
8. Co-chair of AUITC- 2019 IEEE sponsored conference, Mutah, Jordan.
9. Reviewer and member of the technical program committee for the 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT), Amman, Jordan, 9-11 April, 2019.

Member of the Supercourse project, BA Arabic Research Methods Library of Alexandria, hosted by University of Pittsburgh, USA. <http://www.pitt.edu/~super1/ResearchMethods/Arabicindexlight.htm>, authoring/co-authoring the following Arabic lectures:

1. How to write a scientific Paper? In Arabic - lecture by Dr. Ahmad B. A. **Hassanat**,
2. Finger print recognition - lecture by Muna Hawari and Dr. Ahmad B. A. **Hassanat**,
3. Iris recognition system - Rasha Tarawneh, Omamah Thunibat and Dr. Ahmad B. A. **Hassanat**,
4. Ear recognition - Nagham Altarawneh and Dr. Ahmad B. A. **Hassanat**
5. Hand shape biometrics - Donia Rwahnih and Dr. Ahmad B. A. **Hassanat**
6. Palmprint recognition - Batoul Al-Hourani and Dr. Ahmad B. A. **Hassanat**
7. Retina recognition - Omar Alsmahien and Dr. Ahmad B. A. **Hassanat**
8. Palm vein technology - Mohammad Alghassawnih and Dr. Ahmad B. A. **Hassanat**
9. Introduction to biometrics - Mohammad Alghassawnih and Dr. Ahmad B. A. **Hassanat**
10. Face recognition, authors: Omar R. Bedarat, Ahmad B. A. **Hassanat**

### Teaching

Course #	Course name	Level
0307232	Data structure	Undergraduate
0307112	C++	Undergraduate
0307241	Computer Algorithms	Undergraduate
0307341	Artificial intelligence	Undergraduate
0307431	E-commerce	Undergraduate

0307354	Image processing	Undergraduate
0307760	Advanced Artificial intelligence	Postgraduate
0307750	Advanced Digital Image processing	Postgraduate
0307761	Biometrics	Postgraduate
1901716	Design & development of E-business	Postgraduate
1901717	E-business information technology	Postgraduate

### Master Thesis Supervision

- 1- Fusion of Color, Texture, and Statistical Features for Enhancing Content Based Image Retrieval, 2015, Student: Ahmad Tarawneh.
- 2- Novel Methods for Enhancing Genetic Algorithms Performance, 2015, Student: Esra'a Alkafawin
- 3- New methods and databases for Hand Biometrics, 2015-2016, Student: Eman Botoush.
- 4- Dynamic choosing mutation and crossover ratios for genetic algorithm, 2015-2016, Student: Eman Abu Nawas
- 5- A Hybrid Approach to Enhance Digital Image Watermarking, 2016-2017, Student: K. I. Mseidein
- 6- Mobile Application Design & Development Based on Arab Child Behavior, 2016-2017, Student: Manal AlKhoshrman.
- 7- Person and gender identification using veiled face images, 2016-2017, co-supervisor, Student: S. M. M. Alhasanat.
- 8- New Features Extracting Technique for Low Quality Fingerprint, 2016-2017, co-supervisor. Student: Ahmad J Al-shamailh.
- 9- Enhanced Block Filter Thinning (EBFT) Algorithm, 2016-2017, co-supervisor. Student: Aisha Tarawneh.
- 10- New methods for features selection using Huffman code, 2016-present. Student: Bakir Rawshdih
- 11- Text Dependent Writer Identification from Online Arabic Handwriting, 2016- 2018. Student: M. Shamailih
- 12- The Impact of distance metrics and similarity measures on KNN classifier, 2016- 2017. Student: Hanin Abu Alfilat.
- 13- Enhancing GA performance based on a better initial population, 2016- 2017, co-supervisor. Student: Salam, Amer Abu-Qdari
- 15- Eye Language for Disabled Person, 2016-2018. Student: Owayday I. AL-Btoush.
- 16- Initial population seeding for GA using multi regressions, 2017-current Student: Sakhir Tarawneh.
- 17- Deep Victory sign recognition, 2018, M Thnibat.
- 18- Deep veiled-faces recognition, 2018, Abeer Albustanji.
- 19- Deep knuckle recognition, 2018, Bayan Alsarairih.

### PhD Thesis co-Supervision

- 1- Biometrics Writer Recognition for Arabic language: Analysis and Classification techniques using Subwords Features, Maliki Makki, University of Buckingham, 2015. (Co-supervisor for 1 year 2009-2010)
- 2- Biomechanical model for Basketball free throw, 2017-current, co-supervisor, Jordan University

### External examiner

- 1- Web Log Clustering Based on Evolutionary Optimization Algorithm, a master thesis discussed in Jordan University, on 18/12/2016
- 2- Metaheuristic Design for Extreme Learning Machine, a PhD thesis discussed in Jordan University, on 28/7/2018.

### Languages

Arabic, English, C, C++, C sharp, MATLAB, Python, and VB.

### University Management Activities

- 1- The head of the information technology department for two years (2012-2014), with all its related committees.
- 2- A member of some University committees such as the research and high studies committees and the committee of buying books for Mutah Uni. Library.
- 3- A president of the committee, which was responsible for creating the master program in computer science at Mutah University.
- 4- A president of the committee, which was responsible for creating a computer diploma program at the University of Buraimi in Sultanate of Oman under the supervision of MU.
- 5- A member of the committee, which was responsible for establishing a Faculty of Information Technology at MU.
- 6- Represented the IT department in the college council for one year (2011)
- 7- A member of the committee responsible for computerizing computer skill course at MU.

## Press coverage

Some of my work attracted the world press in many languages, those include and not limited to MIT technology review, Russia today, Fuji TV (phone interview), Yahoo news, the Economist, International Business Times, Tech Times and many more, and the following links are some examples:

1. <https://www.yahoo.com/tech/machine-learning-system-identify-terrorists-235922201.html>
2. <https://www.technologyreview.com/s/600971/machine-learning-algorithm-aims-to-identify-terrorists-using-the-v-signs-they-make/>
3. <http://www.newseveryday.com/articles/32450/20160314/researchers-develop-software-identifies-terrorists-through-v-hand-gestures.htm>
4. <http://findbiometrics.com/jordanian-researchers-pioneering-v-sign-biometrics-303114/>
5. <http://www.slate.fr/story/115257/machine-identification-terroristes-v-signe-victoire>
6. <http://techemergence.com/ai-masters-go-gets-artsy-reads-into-human-behavior-and-more-this-week-in-artificial-intelligence-03-12-16/>
7. [http://www.gizmodo.jp/2016/03/post\\_664298.html](http://www.gizmodo.jp/2016/03/post_664298.html)
8. <http://chuansong.me/n/2646094>
9. <http://toutiao.com/i6260795054705607169/>
10. <http://www.tekniikkatalous.fi/tekniikka/voiton-juhliminen-kohtalokas-virhe-tutkijat-opettivat-tekoalyn-tunnistamaan-terroristin-kasista-6500183>
11. <http://www.ibtimes.co.uk/jordan-experts-aim-identify-terrorists-v-victory-signs-1548516>
12. [http://www.myvi.ru/watch/27073028038\\_d8sufLrJ70-Yyxu70WGU4A2](http://www.myvi.ru/watch/27073028038_d8sufLrJ70-Yyxu70WGU4A2)
13. <http://varadoga.blog136.fc2.com/blog-entry-89966.html?sp>
14. <http://www.economist.com/news/science-and-technology/21640472-better-automated-acquisition-speech-may-be-more-about-seeing-hearing-watch-what-you>
15. <http://www.itworld.com/article/2694457/security/how-lip-reading-could-help-improve-online-security.html>
16. <http://www.technologyreview.com/view/530641/the-challenges-and-threats-of-automated-lip-reading/>
17. <http://www.theweek.co.uk/technology/60421/lip-reading-computer-raises-privacy-fears>
18. <http://www.techtimes.com/articles/17268/20141006/lip-movements-might-be-your-next-computer-smartphone-password.htm>
19. <http://www.andhrawishesh.com/home/sci-tech/47334-lip-movements-as-your-new-password.html>
20. <http://www.crazyengineers.com/threads/software-to-read-your-lips-for-secure-authentication-and-access-mutah-university.76872/>
21. <http://www.deccanchronicle.com/141005/technology-latest/article/lip-movements-may-soon-be-your-new-password>
22. <http://beforeitsnews.com/alternative/2014/09/surveillance-cameras-will-soon-be-reading-our-lips-video-3036478.html>
23. <http://www.technovelgy.com/ct/Science-Fiction-News.asp?NewsNum=4295>
24. <http://archive.financialexpress.com/news/lip-movements-may-be-your-new-password/1295716>
25. <http://anonhq.com/surveillance-cameras-will-soon-reading-lips/>
26. <http://www.biometricupdate.com/201501/voice-recognition-software-market-to-become-more-diverse-companies-and-markets>
27. <http://www.justaskgemalto.com/en/tags/biometrics>
28. <http://www.speechtechblog.com/2015/02/03/expanding-definition-speech-science#axzz3RI9xR4u0>
29. <http://investmentwatchblog.com/how-surveillance-cameras-will-soon-be-reading-lips/>
30. <http://alireailleurs.tumblr.com/post/98955530990/defis-et-menaces-de-la-lecture-sur-les-levres>
31. <https://www.youtube.com/watch?v=Ol3ugl5egmQ>
32. <https://www.youtube.com/watch?v=22N2SSj1xp8>
33. [https://www.youtube.com/results?search\\_query=How+surveillance+cameras+will+soon+be+reading+lips+](https://www.youtube.com/results?search_query=How+surveillance+cameras+will+soon+be+reading+lips+)
34. <http://www.companiesandmarkets.com/News/Information-Technology/Voice-recognition-software-market-becomes-diverse-researchers-develop-lip-reading-apps/NI10012>

35. <http://www.unocero.com/2014/09/14/un-sistema-automatico-para-leer-los-labios>
36. <http://observador.pt/2014/09/15/o-computador-comecou-ler-os-seus-labios-mas-ainda-falta-um-pouco-ate-o-fazer-bem>
37. <http://www.express.be/business/nl/technology/denk-twee-keer-na-voor-u-iets-zegt-kan-uw-computer-straks-liplezen/207818.htm>
38. <http://connection.ebscohost.com/c/articles/98661927/lip-reading-computers-unlock-word>
39. <https://www.youtube.com/watch?v=ssYRjlrELog>
40. <https://www.ancientgames.org/tab/>
41. Many more

### Training courses

**Jul 2003 to Jul 2003:** USA signal corps, Augusta, Georgia, USA.

Computer network.

**Jun 2001 to Jun 2001:** Compubase Amman, Microsoft certified training center.

2072-Administering a Microsoft SQL Server 2000 Database.

**May 2001 to May 2001:** united business machines UBM Jordan.

AS/400 operator workshop.

**Apr 2001 to Apr 2001:** Unisys international management center (IMC) in **France**.

Windows 2000 in the data center.

**Mar 2000 to Mar 2000:** STS company, Microsoft certified training center.

983: Accelerated training for Microsoft(R) windows NT(R).

**Sep, 1999 to Sep, 1999:** AL-Ghanem Computer Systems & Solutions.

Windows NT(R) Administrator.

**Aug 1999 to Aug 1999:** AL-Ghanem Computer Systems & Solutions.

Windows NT(R) support.

**Dec 1998 to Dec 1998:** International Training Consulting Center (ITCC). Oracle certified training center

ORACLE Developer 2000 (forms 4.5 part B).

**Nov 1998 to Dec 1998:** ITCC.

ORACLE Developer 2000 (forms 4.5 part A).

**Nov 1998 to Nov 1998:** ITCC. Introduction to ORACLE8 RDBMS.

**Sep, 1997 to Oct 1997:** JAF/Naser Bin Jameel College for military communication. Officers course for electronic warfare.

**Sep, 1995 to Apr 1996:** JAF/Naser Bin Jameel College for military communication.

Basic Signal Course. Training on all kind of communication.

Note: all certifications for education & training will be included upon request

### Awards and achievements

1. Mutah University distinguished researcher award, 2<sup>nd</sup> place, 2018.

2. Has won one-year-precedence for promotion, after submitting 6 single and 6 first-author published papers.

3- Granted full professor (in just 4 years), after satisfying all terms and conditions of Mutah University.

### References

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