Curriculum Vitae

Ali, El-Zaart

Personal Information

- **Full Professor of Computer Science**
  Department of Mathematics and Computer Science,
  Faculty of Sciences,
  Beirut Arab University,
  P.O. Box 11 - 50 - 20 Riad El Solh 11072809 - Beirut, Lebanon
  Telephone: +961 7 985858, ext. 3314 and Fax: +961 7 985060
  E-mail: elzaart@bau.edu.lb or dr_elzaart@yahoo.com
- Nationality: Canadian and Lebanese
- Language: Arabic, French, and English

Education

1996-2000 **University of Sherbrooke**, Sherbrooke, Quebec, Canada.
Faculty of Science, Department of Computer Science.
Ph.D. in computer Science
Subject: Oil Spill Detection Using RADARSAT images
In Collaboration with Canadian Space Agency, Ottawa and Satlantic Company, Halifax.

1994-1996 **University of Sherbrooke**, Sherbrooke, Quebec, Canada.
Faculty of Science, Department of Computer Science
Master (**M.Sc**.) in computer science
Subject: 3D images reconstruction using stereo images

1986-1990 **Lebanese University**, Beirut, Lebanon.
Faculty of Science, Department of Computer Science
Bachelor (**B.Sc**.) in Computer Science

Industrial Experience: CANADA

2000- 2001 **SEMICONDUCTOR INSIGHTS INC. COMPANY, OTTAWA, ONTARIO, CANADA.**
Senior software developer.
Department of research and development

- Subject: Pattern Recognition for Integrated Circuit Images.
  (Image acquisition, Preprocessing, Segmentation, Features extraction, Interpretation).

- Conception and analysis of the project.
- Implementation and validation of the proposed algorithms using Unix (C), Window NT (C++) with Graphic User Interface (GUI).
- Documentation of the project.

1999-2000 **INDUSTRIAL PROJECT, ESSO COMPANY, TORONTO, ONTARIO, CANADA**. (Project of Ph.D.)

- Subject: Oil Spill Detection using RADARSAT SAR Images.
- Conception and analysis of the project.
- Implementation and validation of the proposed algorithms (C/C++).
- Documentation of the project.

1996-1999 **INDUSTRIAL PROJECT, SATLANTIC COMPANY, HALIFAX, CANADA AND CANADIAN SPACE AGENCY.**(Project of Ph.D.)

- Subject: Segmentation of RADARSAT SAR Images.
- Conception and analysis of the project.
- Implementation and validation of the proposed algorithms (C/C++).
- Documentation of the project.

Academic Experience: CANADA

1994-2000 **UNIVERSITY OF SHERBROOKE, CANADA**
Department of Computer Science.
Research assistant in images processing and analysis.

- Processing and analysis of optical and RADAR images.
- Segmentation of images using information theory (MML).
- Apprenticeship process using neuronal network.
- Statistical modeling of RADAR images.
- Holding research seminars.
- Editing of technical reports.
- Supervisor of undergraduate students.

Winter 2000 **UNIVERSITY OF SHERBROOKE, CANADA**
Department of Computer Science. Teaching assistant :

- Image Analysis
- Analysis and Programming Using C++".
- Data Processing (COBOL) ".
- Data Structure using C".

Research and Professional Experience: CANADA

1- Member of Canadian Image Processing and Pattern Recognition Society (CIPPR) 2001-2002.
2- Attestation of academic training, University of Sherbrooke. 1999
3- Member of Canadian-French Association for the Advance of Sciences (ACFAS), 2001-2002
4- Member of Canadian Image Processing and Pattern Recognition Society (CIPPR), 1999-2000.
5- Member of the Association of Ph.D. and M.Sc. Students at the University of Sherbrooke, 1994-1999.
6- Member of the Researcher Students in Science at the University of Sherbrooke, 1994-1999.

Teaching courses: Saudi Arabia and Lebanon

1- Undergraduate courses:

1) Introduction to programming, 2) Advanced programming, 3) Object-Oriented Programming, 4) Data structures, 5)Introduction to Programming with Business application, 6)Software Engineering, 7)Software Design and Quality, 8) Computer Organization and Assembly, 9) Multimedia Systems, 10) Signal Processing, 11) Image processing, 12)Artificial intelligence, 13)Calculus, 14) Data Mining, 15)Information System Software project Management, 16) E- Business for Software development, 17) Introduction to Algebra, and 18)Machine Learning, 18) Applied Artificial Intelligence, 19) Machine Learning Applied on Cybersecurity.

2- Graduate courses:

1)Data mining, 2) Advanced Image processing, 3) Research Seminar, 4) Information Technology and Management, 5) Quantitative Analysis of Medical Image, 6) Machine Learning

1992-1993 **LEBANON**
High school teacher in Algebra, Analysis and Geometry.

Quality Assurance Experience

- ABET Accreditation at King Saud University, 2004-2011.
The undergraduate computer science program that awards the degree Bachelor of Science (B.S.) is accredited by the Computing Accreditation Commission of ABET, http://www.abet.org

- ABET Accreditation at Beirut Arab University, Beirut, Lebanon, 2011-Present
The undergraduate computer science program that awards the degree Bachelor of Science (B.S.) is accredited by the Computing Accreditation Commission of ABET, http://www.abet.org

- Member of Quality assurance center at the Beirut Arab University, 2011-2022

- Member of Institutional Accreditation Committee – Beirut Arab University

Academic Experience at Beirut Arab University, Lebanon

Chairperson of the Computer Science Department: 2023

From January 2020- August 2023.
Director of Center for Continuing & Professional Education at the Beirut Arab University
Director of Center for Entrepreneurship at the Beirut Arab University

Full Professor of computer science since 2016
Department of Mathematics and Computer Science
Faculty of Science.

Academic Experience at King Saud University, Saudi Arabia (2001-2011)

Assistant Professor of computer science: September 2001 – April 2010
Associate professor of computer science: April 2010-August 2011

From September 2001 until August 2004
Assistant Professor
King Saud University, Riyadh, Saudi Arabia
College of Applied Medical Sciences
Department of Biomedical Technology

From September 2004 until August 2011
Assistant Professor and then Associate Professor
College of Computer and Information Sciences.
Department of Computer Science

Research and Professional Experience

Patents

1- A **patent** published at United States Patent and trademark office, 2018.
2- Gold **Medal** for the invention of "Braille copy machine using Image Processing Techniques", King Saud university, **Riyadh**, ,2010
3- Gold **Medal** for the invention of Braille copy machine using Image Processing Techniques, **Malaysia** February 2011.
4- Silver **Medal** for the invention of Braille copy machine using Image Processing Techniques, **Geneva**, April 2011.

Awards

1- Award of the Dean for high quality scientific research papers (KSU, KSA), 2010 (14500 SR).
2- Award for scientific research papers published in high impact factor journals. 2010 at KSU,KSA (Journals Indexed by ISI). (12000 SR).
3- Member of Distinguished Scientist Fellowship program at King Saud University.
4- Member of Top Academia Researcher at King Saud University. 2010

Grants (from January 2006-to-Present)

1- *Co*- Investigator and Principal Investigator substitute of research project supported by National Plan for Science, Technology and Innovation, Saudi Arabia: ***Computer-Aided Detection and Classification of Prostatic Cancerous Tissues using Near and Mid Infrared Multispectral Imagery***. Budget $US 340000. From 2013-2016.
2- *Co*- Investigator and Principal Investigator substitute of research project supported by National Plan for Science, Technology and Innovation, Saudi Arabia: ***Breast Cancer Detection Using Mammography Images***. Budget $US 400000. From 2010- 2013. 08-INF325-02
3- Co- Investigator and Principal Investigator substitute of research project supported by National Plan for Science, Technology and Innovation: ***Developing an integrated system to enable visually impaired people dealing with computers***. From October 2009 – October 2011. Budget $US 250,000.
4- Co- Investigator and Principal Investigator substitute of research project supported by King Abdul-Aziz City for Sciences and Technology (KACST): ***Braille copy Machine***. Period: April, 2008 – April 2010. Budget $US 130000.
5- Co-Researcher and Principal Researcher substitute for a project supported by Research Center of College of Computer and Information Sciences. ***Medical Images Enhancement***. 15 months 2009-2010. Budget $US15000.
6- Principal Researcher for the Project ***Edge Detection in Images***. 15 months 2007-2008.
7- Principal Researcher for the Project ***Images Segmentation Using Statistical Distributions***. 15 months 2006-2007
8- Consultant of a research project. ***Arabic Optical Braille Recognition System*****.** One year. 2007. Support by King Abdul-Aziz City for Sciences and Technology (KACST).

Others:

- Present a talk on faculty of science, Boot summer camp at the Beirut Arab University entitled "Artificial Intelligence, August 4-7, 2025.
- ***Attending*** EEDA-Autumn-School on **Artificial Intelligence applied on Healthcare**, University Hospital of Bonn from 14th to 18th December 2023, ***Bonn, Germany***.
- ***Attending*** a workshop on Big Data, from 15th to 21st May 2022, ***Lisbon, Portugal***. arranged in the framework of the **ERASMUS**+ Capacity Building in Higher Education Project "ELEGANT", funded by European Commission.
- ***Attending*** a workshop on Curriculum Development Workshop on Internet Of Things, **Artificial Intelligence and Cyber security**, Held at Staffordshire University on 6th to 10th June 2022***, United Kingdom.***
- Online "Skills Transformation in Higher Education" Forum, 25/8/2021, Organized by Brains Global in partnership with Coursera.
- ***Organizing*** an international webinar on "Emerging Trends in ICT for Entrepreneurship and Innovation: Educational and Industrial Perspectives" December 9, 2020. Beirut Lebanon on collaboration with **Erasmus+ Program** of the European Union.
- Member of Municipality Council of Barja, (2016-2023)
- Attending one-day workshop on quality assurance 24-11-2017, Beirut Lebanon
- Organizing of workshop on "Smart cities", Dec, 7th, 2017. Beirut Arab university
- Invited speaker at the PCS 2nd Gynecological Oncology Symposium, July 8-9, 2017. Rome, Italy. "Mammogram images segmentation For Breast Cancer detection".
- Attending a meeting of ISO PC288 and ISO PC288/WG1, 3-7 July 2017.Beirut, Lebanon.
- Review Panel on Engineering and Environment as an external expert, (AUB) American University of Beirut, 2017.

Scientific talk at Beirut Arab University, December 17, 2012
Subject: Mammograms Images Segmentation for Breast Cancer Detection.

Editorial Board Member:

1- International Journal of Grid and Distributed Computing (IJGDC)
2- Allied Journal of Medical Research.
3- International Journal of Signal and Image Processing.
4- International Journal of grid Computing and Applications.
5- International Journal of Computer Engineering Science (IJCES).
6- American Journal of Data Mining and Knowledge Discovery (Science publishing group publisher).
7- others

Reviewer of the following submitted research proposal projects

1- One research proposal submitted to Natural Sciences and Engineering Research Council of Canada. Period: five years. Budget: $CAN 175000. Date 2009.
2- Two research proposals submitted to Sciences Technology Program, Emirates Foundation of philanthropy. Period of each project: two years. Budget UEA 200000. Date 2010.
3- Seven research proposals submitted to King Abdul Aziz City for Science and Technology, Saudi Arabia. Period of each project: two years. Date: 2009 and 2010.
4- Research proposal submitted to the Imam University, Saudi Arabia, 2011.
5- Reviewer of the first research report granted by King Abdul Aziz City for Science and Technology, Saudi Arabia, December 2013.

External examiner of Master and PhD Thesis:

1. **President of the Jury of the PhD defense between the Lebanese university and University of technology in Troyes, France. Title of the PhD thesis: *"Deep Learning for Anomaly Detection in Images and Videos"* June 6th, 2023.**
2. **President of the Jury of the PhD defense, Between Lebanese University and Plolitecnico Di Torino, Italy. Title of the PhD thesis: Hyperspectral Imaging for Landmine Detection, November 2017.**
3. **External committee member of** Master thesis, "Automatic recognition system for selected freshwater algae using pattern recognition techniques" 2012.University of Malaya, Malaysia
3- Many master and PhD Theses.

Committee Member and Reviewer of the following International conferences

1- TPC reviewer, 2025 The International Conference on Microelectronics (ICM 2025) 14-17 December 2025, Cairo, Egypt
2- Technical member/Reviewer, ***2026 9th International Conference on Software and System Engineering*** will be held in Lyon, France from April 13 to 15, 2026
3- TPC, International Conference on Artificial Intelligence, Systems, and Emerging Technologies – IEEE/ICAISET'26 April 21-23, 2026 - BUE - CAIRO – EGYPT.
4- TPC, ICAISET2026, International conference on artificial intelligence, systems, and emerging Technologies 2026
5- Technical program Committee member, (***2025 IEEE International Conference on Emerging Trends in Engineering and Computing (ETECOM)),*** AMERICAN UNIVERSITY OF BAHRAIN (AUBH), BAHRAIN, 29-30 October 2025
6- Program Committee Member ***"5th International Conference on Image Processing and Vision Engineering -2025. Spain 20-21 May 2026.***
7- Program Committee Member ***"International Conference on Advances in Computational Intelligence and Applications -2025.*** Janakpuri, New Delhi-110058, 7th & 8th November 2025

8- Program Committee Member ***(2025 32nd IEEE International Conference on Electronics, Circuits and Systems (ICECS***)). Marrakech, Morocco, 17-19 November 2025.
9- Program Committee Member ***"2025 3rd Asia Conference on Computer Vision, Image Processing and Pattern Recognition (CVIPPR 2025)*** will be held in Xiamen, China during May 23-25.
10- Program Committee Member ***"5th International Conference on Image Processing and Vision Engineering" - IMPROVE 2025 ,*** Porto, Portugal, 7-8 April 2025
11- Technical program Committee member, ***The 2nd International Conference on Smart Systems and Power Management (IC2SPM 2024), Lebanon,*** November 28-29, 2024
12- Program Committee member, ***"20th International Conference on Computer Vision Theory and Applications" - VISAPP 2025***, Porto, Portugal, Feb. 2025
13- Technical program Committee, ICRSG ***2024 - 2024 International Conference on Remote Sensing and Geographic Information***, will be held in Singapore, during in August 21-23, 2024.
14- Technical program Committee ***2024 16th International Conference on Graphics and Image Processing (ICGIP 2024)*** in Nanjing, China during November 8-10, 2024
15- Technical program Committee***, 5th International Conference on Soft Computing and its Engineering Applications (icSoftComp2023),*** December 2023, india.
16- Online session chair of ***2022 14th International Conference on Graphics and Image Processing (ICGIP 2022***) in Nanjing, China during October 21-23, 2022.
17- Technical Program Committee***, 2022 International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT 2022),*** 20-21 November 2022 - Bahrain, University of Bahrain
18- Technical Program Committee***, International Conference of Advanced Technology in Electronic and Electrical Engineering (ICATEEE2022),*** 26th to 27th November 2022, M'sila, ALGERIA
19- Technical Program Committee**,** ***The 3rd International Conference on Distributed Sensing and Intelligent Systems (****ICDSIS2022*) to be held in Dubai, October 19-21, 2022
20- International Technical Committee member, International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT 2022). ***20-21 November 2022 - Bahrain, University of Bahrain.***
21- Technical Program Committee, ***4th Asia Pacific Information Technology Conference (APIT 2022)***, 14-16 January, 2022 in Bangkok, Thailand.
22- Technical Program Committee ***, 6th International Conference on Advances in Biomedical Engineering (ICABME21),*** Islamic University of Lebanon - Faculty of Engineering - Werdanyeh Campus, October 7-9, 2021.
23- Technical Program Committee, ***International Journal of Computing and Digital Systems (IJCDS)***- ISSN 2210-142X.
24- Technical Program Committees 2021 ***3rd Asia Pacific Information Technology Conference***, January 15-17, 2021 Bangkok, Thailand

25- Technical Committee member at the 2020 12h ***7th International Conference on Image Processing and Pattern Recognition (IPPR 2021)***" April 24~25, 2021, Copenhagen, Denmark.
26- Technical Committee member at the 2020 12h ***International Conference on Graphics and Image Processing*** (ICGIP 2020) at Jianguo Hotel Xi'an in Xi'an, China during November 13-15, 2020.
27- Technical Committee member (ICBSP 2020 at ***International Conference on Biomedical Imaging, Signal Processing***, Kyushu Institute of Technology, Kitakyushu, Japan during September 27-29, 2020.
28- Program Committee Member, (ICDIPV 2020) ***International Conference on Digital Image Processing and Vision*** Vancouver, Canada on May 30~31, 2020
29- Program Committee Member, ICM2019 ***(2019 31st International Conference on Microelectronics (ICM)).*** December 15 – 18, 2019, Cairo, Egypt
30- Technical Committee member, ***2020 2nd Asia Pacific Information Technology Conference (APIT 2020***), 17-19 January, 2020 in Bali Island, Indonesia
31- Program Committee Member, ***2019 11th International Conference on Graphics and Image Processing (ICGIP 2019)*** in Hangzhou, China during October 12-14, 2019.
32- Technical Committee member, ***2019 International Conference on Big-data Service and Intelligent Computation(BDSIC 2019)***,18-20 October, 2019 in Wuhan, China.
33- Program Committee Member, ***9th International Conference on Digital Image Processing and Pattern Recognition (DPPR 2019),*** December 21~22, 2019, Sydney, Australia.
34- Organizer committee member, ***5th International Conference on Advances in Biomedical Engineering (ICABME19).*** Lebanese University (LU), Tripoli campus, Lebanon October 17-19, 2019.
35- Program Committee Member, ***5th International Conference on Image Processing and Pattern Recognition (IPPR 2019),*** June 22~23, 2019, Dubai, UAE.
36- Technical Committee member, ***4th International Conference on Biomedical Imaging, Signal Processing (ICBSP 2019)***, 17-19 October 2019, Nagoya, Japan
37- Technical Committee member , ***International Conference on Computing (ICC 2019),*** October 22-24, 2019 - Riyadh, Saudi Arabia
38- Technical Committee member, ***Fourth International Conference on Advances in Computational Tools for Engineering Applications (ACTEA'19))*** Beirut, Lebanon, 2019.
39- Technical Committee member, ***3rd International Conference on Graphics and Signal Processing (ICGSP 2019)***, Hong Kong during June 1-3, 2019.
40- Program Committee Member, ICA2IT19: ***International Conference on Artificial Intelligence and Information Technology***. Ouargla, Algeria, March 4-6, 2019.
41- Program Committee Member,10th International Conference on Graphics and Image Processing (ICGIP 2018), Chengdu, China during December 12-14, 2018.
42- Program Committee Member, ICA2IT19: ***2019 Asia Pacific Information Technology Conference (APIT 2019)***, 25-27 January, 2019 in Jeju Island, South Korea.
43- Technical Program Committee ***The International Conference on Computer and Applications*** ICCA'18, July 25th-26th, 2018, Beirut, Lebanon.
44- Technical Program Committee ***6th International Conference on Information Technology in Education (ICITE 2018),*** May 26~27, 2018, Dubai, UAE

45- Program Committee Member , 2018 ***10th International Conference on Graphics and Image Processing*** (ICGIP 2018 – www.icgip.org), December 12-14, 2018 in Chengdu, China.
46- Program Committee Member at the 6th International Conference on Signal, Image Processing and Pattern Recognition (SPPR 2017), September 23-24, Denmark.
47- Organizing Committee member, ***The seventh Annual meeting of the "Lebanese Society for the Mathematical Sciences***" LSMS-2017, University of Balamand, Lebanon, on April 20-21, 2017.
48- Program Committee Member, ***Fifth International Conference on Information Technology in Education*** (ICITE 2017), 24-25 June, Sydney, Australia.
49- Technical Program Committee, IEEE-ICM2017 (2017 ***29th International Conference on Microelectronics (ICM),*** Lebanon.
50- Program committee member of ***International Conference on Soft computing and Its Engineering Applications***, December 1-2, 2017. Charusat, India.
51- Program Committee Member, ***SENSET2017 is the first International Conference on Sensors, Networks, Smart and Emerging Technologies,*** 12-14 September, 2017, Beirut, Lebanon
52- Program Committee Member ***The 21st Multi-conference on Systemics, Cybernetics and Informatics: WMSCI*** 2017. July 8 - 11, 2017 – Orlando, Florida, USA
53- Technical Program Committee, ***International Conference on Computer and Applications (ICCA'17)***, September 06-07, 2017 Dubai, United Arab Emirates
54- Program Committee Member, ***Sixth International Conference on Signal & Image Processing (SIP 2017),*** February 25 - 26, 2017 , Sydney, Australia.
55- Program Committee Member, ***Second International Conference on Data Mining and Applications (DMA 2016),*** Geneva, Switzerland.
56- Program Committee Members, ***Fourth International Conference on Data Mining & Knowledge Management Process (DKMP 2016),*** Dubai, UAE.
57- Program Committee Member, ***Third International Conference on Data Mining and Database (DMDB 2016)***, Austria.
58- Program Committee Member, ***Second International Conference on Signal Processing (SP 2016),*** October 2016, India.
59- Program Committee Member at the ***Second International Conference on Data Mining and Database Management Systems (DMDBS-2016),*** India.
60- Program Committee Members at the ***Second International Conference on Data Mining (DTMN 2016),*** India.
61- Program Committee Members at the ***Fifth International Conference on Data Mining & Knowledge Management Process (CDKP 2016***).Dubai, UAE
62- Scientific Committee Member at the ***8th International Conference on Graphic and Image Processing (ICGIP 2016)*** will be held in Tokyo, Japan during October 29-31, 2016.
63- Technical Program Committee, ***International Conference on Computer and Applications,*** September 14-15, 2016. Dubai, United Arab Emirates
64- Reviewer of the ***International Conference on Artificial Intelligence and Information Technology,*** 2014.

65- Reviewer and chair of session at the ***IEEE International conference on Advances In computational Tools for engineering applications (ACTEA2012).*** Notre Dame University, Lebanon. December 12-15, 2012.
66- Scientific Committee Member of the ***International Conference on Signal and Image Processing, (ICSIP'03)***, Morocco, June 2003.
67- Scientific Committee Member of the ***First National Conference on Information Technology***, Riyadh, Saudi Arabia 2006.
68- Scientific Committee Member of the 3rd ***International Conference on Information Technology***. May 9-11, Amman, Jordan, 2007.
69- Technical program committee member, ***International Conference on Multimedia Computing and Information Technology***. Sharjah, UAE. March 2-4, 2010.
70- Program Committee Members, The ***First International Conference on Robot, Vision and Signal Processing***, Taiwan, 2011.

Reviewer papers

1. SN Applied Science Journal (Springer)
2. Neural Computing and Applications journal
3. Pattern recognition journal
4. IEEE transaction in Image processing journal
5. International Journal of Imaging Systems and Technology.
6. International Journal of Signal and Imaging Systems Engineering.
7. International Journal of Advances in Breast Cancer Research ABCR.
8. Others.

Reviewer: Two books in image processing.

Academic Committee Member

1. Chair of the IT committee at the Beirut Arab University
2. Member of Website Steering Committee at the Beirut Arab University
3. Member of the "Universite Numerique" project between France and six Lebanese universities (BAU, AUB, USEK, USJ, Balamand, LU).
4. Member of Quality Assurance center at Beirut Arab University.
5. Academic coordinator of Faculty of science, Beirut Arab University
6. Member of Association of Arab Universities colleges of computing and information Society.
7. Council coordinator of the computer science Department 2004-2011 (KSU)
8. Member of PhD. Entrance exam committee (2008- 2009)- KSU
9. Convener of research assistant recruitment committee (2009)- KSU
10. Convener of interview committee for candidate teaching assistants (2009-2010)
11. Convener of interview committee for candidate PhD students (2008- 2009).
12. Member of the department graduate committee 2006-2008-KSU
13. Member of the committee for Master and Ph.D. entrance exam KSU
14. Member of the department annual report committee .2004-Sept. 2008. KSU
15. Member of the college computer committee (2002-2004)-KSU

16. Member of the department final exam committee (2003-2004)-KSU
17. Member of the department graduation project committee (one semester)-KSU
18. The Academic Supervisor of the department students (2002-2004) -KSU

Agriculture Experience

- Head of the of the Agricultural Committee at Beirut Arab University- Debbieh Campus. Responsibility: Supervision on Grass Cutting, Watering Green Areas, Fertilization, Care for Flowers and Shrubs, Environmental Planning, Manual Weed Removal, Sustainability.
- Member of Agriculture committee at the municipality of Barja.
- Organizing many training courses on the Avocado Trees Grafting.

Graduate Students Supervision

Supervision of PhD Students

1- Student: Ali ElSous 2026-Present

2- Student: **Nagham Shukur**, **Spring2024-Present** (Main advisor) PhD in physics.
Subject: Reducing Gadolinium Dose and Enhancing Brain MRI Images Clarity Using Machine Learning Techniques.
In **collaboration** with University of Anbar, Iraq

3- Student**: Nada Elie (Spring 2024-Present) (** main advisor)
Subject**:** An end-to-end Approach for Creating Interactive Virtual Environments from Panoramic Images

4- Student: **Zeinab Anis** Chahrour main advisor, PhD in physics.
Subject: Artificial Intelligence neural networks for quality assurance of image registration CT/MRI for brain and Head Cancer
In **collaboration** with American University of Beirut.

5- Student: **Salma Ghali,Fall2023-Present** (main advisor)
Subject: Tumor Localization in Medical Image Scans using 3D Convolutional Learning Techniques

6- Student: **Anis Hijazi**
Subject: Image Forgery detection

7- Student: **Hala Sweidan**
Subject: Statistical modeling of images using machine learning techniques

---------- **Graduated PhD students**----------

8- Student: **Ibrahim Dhaini –(Spring 2022-Spring2025)**
Subject: An intelligent and green e-healthcare model for an early diagnosis of Medical images for use in IoMT applications.

9- Student**: Bassam Al Masry (Fall2020-Spring2025**) (main advisor)
Subject**:** An Improvement of a Deep Convolutional Neural Network: An Application on Image Classification
In **collaboration** with Lebanese University.

10- Student: **Walaa Jumiawi** –(Fall2020-Fall2023) main advisor
Subject: Improving the Existing Image Segmentation Methods Using Mean Estimation Approach

11- Student **:Nancy Zerika (Fall2016-Fall2023)** *main advisor*
Subject: Images Segmentation Using Minimum Cross Entropy

12- Student **: Soha Rawas (Spring2015-Spring2019)** *main advisor*
Subject: An Energy-Efficient Service Model for Green Cloud Computing

13- Student**: Sukaina Al Nasrawi (Spring2015 –Fall2017)** *main advisor*
Subject*:* A Conceptual Framework for the Transformation towards Smart Sustainable Cities
In **Collaboration** with the *University of Portsmouth,* **United Kingdom.**

14- Student**: Maison Ibrahim (Spring2015 –Fall2017)** *main advisor*
Subject :A Conceptual Framework for the Transformation towards Smart Sustainable Cities
In **Collaboration** with the University of Portsmouth, **United Kingdom.**

15- Student**: Salah Shami (Spring 2014 – Fall2017)** *main advisor*
Subject: Classification of Closed-set Patterns using Data Mining Techniques
in **Collaboration** with Hariri University.

16- Student**: Ziad Abdullah (Fall 2012 –Spring2018)** *main advisor*
Subject:Multilabel Images Classification
in **Collaboration** with the *Lebanese University* (Prof. Mohamed Ouaidat)

17- Student**: Duaaal Saeed (2010--2015), King Saud University**
Subject: **Image Segmentation Using Statistical Approaches**
in **Collaboration** with the University of Northumbria ,**United Kingdom.**

Supervision of Master Students

1. Student**: Ali Ghosn (Fall2014-Spring2018)** *main advisor*
   Subject**: Edge Detection Operators Based on Finite Difference Methods**

2. Student**: Manal Zaheddine (Spring 2013-Spring2015)** *main advisor*
   Subject**: Automated Self-Assessment System for Academic Programs Accreditation**

3. **Student: Roa Abou Khousheh** *co-advisor*
   Subject: **Mining Online Social Networks for Homophily Based Links**

4. Student**: Rola Al-Alayly (Spring 2011-Spring 2012)** *main advisor*
   Subject**: Images Thresholding Based on Cross-Entropy Techniques**

5. Student**: Moumena Al Hadithi (Spring 2011-Fall2012)** *main advisor*
   Subject: **Different Techniques of Images Thresholding Based on Between Class Variance**

6. Student: **Wafaa Al Jibory (Spring 2011-Spring2013)** *main advisor*
   Subject: **Improvement of Edge detection technique for objects in Images**

7. Student**: Yasser Ali (2009-2011)** *main advisor*
   Subject: **Split and Merge method for Image Thresholding**

8. Student**: Abdo Jomai (2009-2011)** *main advisor*
   Subject: **Iris recognition using image processing techniques.**

9. Student**: Bandar Al-Maslokh (2009-2010)** *main advisor*
   Subject: **Edge detection In Medical Images**.

10. Student**: Rhama Al-Zahrani (2008-2009)** *main advisor*
    Subject: **Sgementation of Images Using Edge Information.**

11. Student**: Khaled AlSaud (2008-2009)** *main advisor*
    Subject: **Edge Detection In Images**

12. Student**: Eidah Assidan(2008-2009)** *main advisor*
    Subject: **Optimal Thresholding Based on Between-Class Variance Using Gamma Distribution.**

13. Student**: Youssef Al-Sahbani (2008-2009)** *main advisor*
    Subject: Braille copy Machine.

14. Student**: Ghada Al-Osaimi (2007-2008)** *main advisor*
Subject**: Minimum Cross Entropy for Images Thresholding**

15. Student**: Amany Al-Saleh (2006-2007)***main advisor*
Subject:**Automatic Dot Detection of Optical Braille Images.**

16. Student**: Reem Al-Attas (2006-2007)***main advisor*
Subject: **Multi-Level Minimum Cross Entropy Thresholding.**

17. Student**: Moussa Al-Kahtani (2006-2007) -** *main advisor*
Subject: **Breast Cancer Detection in Mammogram Images**.

18. Student**: Duaa Al-Said (2002) -** *main advisor*
Subject: **MWF-Multi WindowFilter : A Non-Linear Filter Method in Spatial Domain**

Publications

Google scholar: Citations 2670, h-index 24, i10-index 64
https://scholar.google.com/citations?hl=en&user=lQJZcq0AAAAJ

ORCID: https://orcid.org/0000-0002-1240-3785
Scopus ID: 24528318500, h-index 16 (99 documents), citations: 1252 (last visited Feb. 2026)

United States Published Patent:
BRAILLE COPY MACHINE USING IMAGE PROCESSING TECHNIQUES
Inventors:

1. AL-SALMAN, AbdulMalik S.
2. **EL-ZAART, Ali Y**.
3. AL-HOKAIL, Khalid A.
4. AL-SUHAIBANI, Yousef A.
5. ALQABBANY, AbdulAziz O.z

Patent number: 20120008151
US Classes: 358/1.2, 358/3.29
International Classes: G06K 15/00 and G06K 15/02
Submitted: July 8, 2010
Grant: January 23, 2018

Journals

1. Salma Ghali; **Ali El-Zaart**; Lama Affara ***Hybrid Attention and Learnable Thresholding for 3D Brain Tumor Segmentation,*** Online and Biomedical Engineering journal (Q2), Vol. 22, No.3, 2026
2. Nada Said, Bilal Nakhal, Ali El-Zaart, Lama Affara, ***Dual RANSAC with Rescue Midpoint Multi-Trend Vanishing Point Detection,*** Journal of Imaging (Q2), Vol. 12, Issue 4, 2026.
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