



# Alaa Sulaiman Al-Waisy

Doctor of Philosophy in Computer Science

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Address: Ramadi City, Al-Anbar Province, Iraq.

## Career Objective

To secure a position where I can efficiently contribute my skills and abilities to the growth of the organization and build my professional career.

## Education

### Bachelor in Computer Science

Al-Anbar University  
Anbar City, Iraq  
2005-2009

### Master in Computer Science

Al-Anbar University  
Anbar City, Iraq  
2010-2011

### PhD in Computer Science

Bradford University  
Bradford City, UK  
2014-2018

## Experience

### A lecturer at Al-Ma'aref University College, Computer Science Department, Iraq, 2011– 2013

Through this period Al-Waisy has taught many subjects, such as the operating system, logic design, Object-Oriented Programming (OOP), web programming, and computer graphics. Al-Waisy has supervised on a number of Bachelor's projects at the computer science department in different areas such as image processing, pattern recognition, visual cryptography and texture classification.

Al-Waisy served as the head of the laboratory unit at Al-Ma'aref University College. Through this period Al-Waisy has also served as an Examination Committee Member In the same department.

### An active member of the Medical Imaging Research Group, Bradford University, UK, 2014-Present

The research group is interested in the development and implementation of medical imaging systems dealing with visualization, diagnostics and 3D modelling of different features of interest appearing in a variety of medical scans. <http://medicalimg.brad.ac.uk/team.html>.

## Administrator of Artificial Intelligence for Games Lab, Bradford University, UK, 2015-2018

The AIFG Lab is about designing and understand how to write down strategies for a number of AI games in a form suitable for creating computer code.

### Academic Supervision Activity

AI-Waisy was involved in the supervision process of three PhD students' projects and one master's project at the computer science department of Bradford University, in two different areas include, space weather and medical imaging.

### Software programmer with extensive experience skilled in C++, Matlab, Python, HTML, CSS and JavaScript

Results-oriented software developer with 14+ years of experience developing, testing, and maintaining multiple software applications to address many challenging tasks in image processing and computer vision. AI-Waisy was responsible for Designing and developing up to 10 applications projects in the last 6 years using different programming languages such as Matlab, Python, HTML, CSS, and JavaScript. The last developed application can be found [here](#).

### Served a reviewer for a number of international conferences and journals

In 2019, AI-Waisy served as an organizer and a reviewer for "International Special Session on Recent Advances in Imaging and AI Technologies for Improved Healthcare," 3rd International Conference on Computing, Communications, and Information Technology (CCIT 2019), Al-Anbar University, Iraq, 24-25 April 2019.

In 2019, he served as an International Scientific Committee Member and a Reviewer for Applied Computing Research to Support Industry: Innovation and Technology (ACRIT-2019) conference.

AI-Waisy is on the Review Board of various leading international journals, including, Progress in Artificial Intelligence - Springer journal, Applied Mathematics and Computation - Elsevier journal, Computers and Electrical Engineering - Elsevier journal, etc.

## Funded Projects

Translate: Medical Technologies to develop medical technologies that address health challenges in the Leeds City Region, extended evaluation of the newly developed CEAS (Corneal Endothelium Analysis System), 3000£, 2018.

## Technical Skills

### Professional Skills

|                      |      |
|----------------------|------|
| Biometric Systems    | ●●●● |
| Patterns Recognition | ●●●● |
| Deep Learning        | ●●●● |
| Image processing     | ●●●● |
| Data Analysis        | ●●●● |
| Computer Vision      | ●●●● |

### Professional Skills

|                          |      |
|--------------------------|------|
| Medical Imaging          | ●●●● |
| Machine Learning         | ●●●● |
| Security Systems         | ●●●● |
| Operating Systems        | ●●●● |
| Programming Languages    | ●●●● |
| Applications Development | ●●●● |

## List of Publications

### Journal Papers:

- Mohammed, M.A., Abdulkareem, K.H., Al-Waisy, A.S., Mostafa, S.A., Al-Fahdawi, S., Dinar, A.M., Alhakami, W., Baz, A., Al-Mhiqani, M.N., Alhakami, H. and Arbaiy, N., 2020. Benchmarking Methodology for Selection of Optimal COVID-19 Diagnostic Model Based on Entropy and TOPSIS Methods. *IEEE Access*, vol. 8, no. 1, pp. 1–17, 2020.
- Alaa S. Al-Waisy, Rami Qahwaji, Stanley Ipson, Shumoos Al-Fahdawi, "A multimodal deep learning framework using local feature representations for face recognition", *Machine Vision and Applications-Springer.*, vol. 29, no. 1, pp. 35–54, 2017.
- Alaa S. Al-Waisy, Rami Qahwaji, Stanley Ipson, Shumoos Al-Fahdawi, "A Multi-biometric Iris Recognition System Based on a Deep Learning Approach", *Pattern Analysis and Applications-Springer.*, pp. 1–20, 2017.
- Shumoos Al-Fahdawi, Rami Qahwaji, Alaa S. Al-Waisy, Stanley Ipson, Rayaz A. Malik, Arun Brahma, and Xin Chen, "A fully automatic nerve segmentation and morphometric parameter quantification system for early diagnosis of diabetic neuropathy in corneal images," *Computer Methods and Programs in Biomedicine*, vol. 135, pp. 151–166, 2016.
- Tarek A M Hamad Nagem, Rami Qahwaji, Stan Ipson, Zhiguang Wang, and Alaa S. Al-Waisy, "Deep Learning Technology for Predicting Solar Flares from (Geostationary Operational Environmental Satellite) Data," *International Journal of Advanced Computer Science and Applications (IJACSA)*, vol. 9, no. 1, pp. 492-498, 2018.
- Shumoos Al-Fahdawi, Rami Qahwaji, Alaa S. Al-Waisy, Stanley Ipson, Maryam Ferdousi, Rayaz A. Malik, and Arun Brahma, "A Fully Automated Cell Segmentation and Morphometric Parameter System for Quantifying Corneal Endothelial Cell Morphology," *Computer Methods and Programs in Biomedicine*, vol. 160, pp. 11–23, 2018.
- Muzhir Shaban Al-Ani and Alaa S. Al-Waisy, "Face Recognition Approach Based On Wavelet-Curvelet Technique", *Signal & Image Processing: An International Journal (SIPIJ)* Vol.3, No.2, April 2012.
- Muzhir Shaban Al-Ani and Alaa S. Al-Waisy, "Multi-View Face Detection Based On Kernel Principal Component Analysis And Kernel Support Vector Techniques", *International Journal on Soft Computing (IJSC)*, Vol.2, No.2, May 2011.
- Alaa S. Al-Waisy, "Ear Identification System Based on Hybrid Techniques", *International Journal of Electronics Communication and Computer Engineering*, Vol.3, No.5, pp. 2278 – 4209, 2012.
- Alaa S. Al-Waisy, "Detection and Recognition of Human Faces Based on Hybrid Techniques ", *IJAC*, Vol. 5, No. 2, pp.115-126, 2012.

### Conference Papers:

- Alaa S. Al-Waisy, Rami Qahwaji, Stanley Ipson, Shumoos Al-Fahdawi, "A Fast and Accurate Iris Localization Technique for Healthcare Security System", 2015 IEEE International Conference on Computer and Information Technology; Ubiquitous Computing and Communications; Dependable, Autonomic and Secure Computing; Pervasive Intelligence and Computing, pp. 1028-1034, 2015.
- Alaa S. Al-Waisy, Rami Qahwaji, Stanley Ipson, Shumoos Al-Fahdawi, "A Robust Face Recognition System Based on Curvelet and Fractal Dimension Transforms", 2015 IEEE International Conference on Computer and Information Technology; Ubiquitous Computing

and Communications; Dependable, Autonomic and Secure Computing; Pervasive Intelligence and Computing, pp. 548-555, 2015.

- Alaa S. Al-Waisy, Rami Qahwaji, Stanley Ipson, Shumoos Al-Fahdawi, "Multimodal Biometric System for Personal Identification Based on Deep Learning Approaches", 2017 Seventh International Conference on Emerging Security Technologies (EST), pp.163-168, 2017.
- Shumoos Al-Fahdawi, Rami Qahwaji, Alaa S. Al-Waisy, and Stanley Ipson, "An automatic corneal subbasal nerve registration system using FFT and phase correlation techniques for an accurate DPN diagnosis," 2015 IEEE International Conference on Computer and Information Technology; Ubiquitous Computing and Communications; Dependable, Autonomic and Secure Computing; Pervasive Intelligence and Computing, pp. 1035–1041, 2015.
- Alaa S. Al-Waisy, Shumoos Al-Fahdawi, Rami Qahwaji, and Rayaz A. Malik, "An Improved Version of the Corneal Endothelium Analysis System (CEAS) for Quantifying Corneal Endothelial Cell Morphology," 3rd International Conference on Computing, Communications, and Information Technology (CCIT 2019), Al-Anbar University, Iraq, 24-25 April 2019.

#### **Book Chapters:**

- Alaa S. Al-Waisy, Shumoos Al-Fahdawi, and Rami Qahwaji, A Multi-biometric Face Recognition System Based on Multimodal Deep Learning Representations, Deep Learning in Computer Vision: Theories and Applications, Acceptance notification: 23 April, 2019.

#### **Workshops and Special Sessions:**

- Alaa S. Al-Waisy, Shumoos Al-Fahdawi, and Rami Qahwaji, "International Special Session on Recent Advances in Imaging and AI Technologies for Improved Healthcare," 3rd International Conference on Computing, Communications, and Information Technology (CCIT 2019), Al-Anbar University, Iraq, 24-25 April 2019.

#### **Demos & Presentations:**

- Alaa S. Al-Waisy, Rami Qahwaji, Stanley Ipson, Shumoos Al-Fahdawi, "A Multi-biometric Iris Recognition System Based on a Deep Learning Approach", University of Bradford, 12 Oct. 2017.
- Shumoos Al-Fahdawi, Rami Qahwaji, Alaa S. Al-Waisy, Stanley Ipson, Rayaz A. Malik, Arun Brahma, Xin Chen, "Automated Diagnosis of Diabetic Neuropathy from Corneal Images", The Digital Health and Wellbeing Festival at the Digital Exchange, University of Bradford, Wed. 29-Thu. 30 June, 2016.
- Shumoos Al-Fahdawi, Rami Qahwaji, Alaa S. Al-Waisy, Stanley Ipson, Rayaz A. Malik, Arun Brahma, "A Fully Automated Cell Segmentation and Morphometric Parameter System for Quantifying Corneal Endothelial Cell Morphology", Digital Health Enterprise Zone Academic Launch Event, DHEZ Academic, Phoenix, University of Bradford, Sep. 29, 2017.

#### **Posters:**

- Alaa S. Al-Waisy, Rami Qahwaji, Stanley Ipson, Shumoos Al-Fahdawi. "A Multimodal Deep Learning Framework Using Local Feature Representations for Face Recognition", Accepted for presentation at the 1st Annual Innovative Postgraduate Research Conference (1st AIERC), University of Bradford, July 17, 2017.
- Shumoos Al-Fahdawi, Rami Qahwaji, Alaa S. Al-Waisy, Stanley Ipson, Rayaz A. Malik, Arun Brahma, Xin Chen "A Fully Automatic Nerve Segmentation and Morphometric Parameter Quantification System for Early Diagnosis of Diabetic Neuropathy in Corneal Images", Accepted for presentation at the 1st Annual Innovative Postgraduate Research Conference (1st AIERC), University of Bradford, July 17, 2017.

- Shumoos Al-Fahdawi, Rami Qahwaji, Alaa S. Al-Waisy, Stanley Ipson, Rayaz A. Malik, Arun Brahma, "Automated Diagnosis of Diabetic Neuropathy from Corneal Images" , Digital Health Enterprise Zone Academic Launch Event, DHEZ Academic, Phoenix, University of Bradford, Sep. 29, 2017.
- Rami Qahwaji, Shumoos Al-Fahdawi, Alaa Al-Waisy, Rayaz A. Malik, Maryam Ferdousi, and Arun Brahma, "Novel Imaging Technologies for the Quantification of Nerve Structures from Corneal Confocal Images ", The transformative potential of data and image analysis for eye care, The Royal Society, London, 6-9 Carlton House Terrace, April, 23-24, 2018.

## References

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