



# WALIED ALI MERGHANI

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**in**

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## Education

### **Sudan University of Science and Technology**

B.Sc. in Computer and Information Systems (Honor)  
2006 — **First Class**

### **Sudan University of Science and Technology**

M.Sc. in Computer Science  
2013 — **First Class**

### **Sudan University of Science and Technology**

PhD in Computer Science  
2020 —

## Experience

### **Sudan University of Science and Technology**

Assistant Professor

October 2020 - Now

### **Sudan University of Science and Technology**

Lecturer

October 2013 - September 2020

### **Sudan University of Science and Technology**

Teaching Assistant

March 2008 - September 2013

### **Sudan University of Science and Technology**

Head of Department of Scientific Studies at College of Technology.

November 2021 - Now

### **Sudan University of Science and Technology.**

Head of Department of Software Engineering  
at College of Computer Science and Information Technology.

September 2018 - May 2019

### **Sudan University of Science and Technology**

Head of Department of Computer Science  
at College of Computer Science and Information Technology

January 2014 - January 2016

### **Taj International Academy, Sudan**

Lecturer

2017 - Now

### **National Ribat University, Sudan**

Part Time lecturer

2015 - 2015

### **Bayan University, Sudan**

Part Time lecturer

2014 - 2014

### **National University, Sudan**

2017 - 2017

## Publication

### **Evaluating spatio-temporal features for classification of objective classes.**

Merghani, Waled, Adrian Davison, and Moi Yap. "Facial Micro-expressions Grand Challenge 2018: Evaluating spatio-temporal features for classification of objective classes." *Automatic Face & Gesture Recognition (FG 2018)*, 2018 13th IEEE International Conference on. IEEE, 2018.

### **The implication of spatial temporal changes on facial micro-expression analysis.**

Merghani, Waled, Adrian K. Davison, and Moi Hoon Yap. "The implication of spatial temporal changes on facial micro-expression analysis." *Multimedia Tools and Applications* 78.15 (2019): 21613- 21628.

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### **Objective micro-facial movement detection using facsbased regions and baseline evaluation**

Davison, Adrian, Waled Merghani, Cliff Lansley, Choon-Ching Ng, and Moi Hoon Yap. "Objective micro-facial movement detection using facsbased regions and baseline evaluation." *Automatic Face & Gesture Recognition (FG 2018)*, 2018 13th IEEE International Conference on. IEEE, 2018.

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### **Objective classes for micro-facial expression recognition.**

Davison, Adrian K., Waled Merghani, and Moi Hoon Yap. "Objective classes for micro-facial expression recognition." *Journal of Imaging* 4.10 (2018): 119.

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### **Adaptive Mask for Regionbased Facial Micro-Expression Recognition.**

Merghani, Waled, and M. Hoon Yap. "Adaptive Mask for Regionbased Facial Micro-Expression Recognition." *2020 15th IEEE International Conference on Automatic Face and Gesture Recognition (FG 2020)*. IEEE, 2020.

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## **Teaching**

Introduction to computer Science (Frequently +5 times)

C++ (Frequently +4 times)

Java programming (Frequently +8 times)

Computer Graphics (Frequently +8 times)

Software Engineering (Frequently+3 times)

Internet Applications ( Frequently+3 times)

Digital Systems (Frequently+3 times)

Computer Architecture (Frequently+3 times)

Operating Systems (Frequently+3 times)

Computer Vision (1 Time), For Master Students.

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## **Projects**

### **E-attendance Using Face Recognition (2014)**

Associate with Sudan University of Science and Technology (SUST).

The project aims to take attendance by facial recognition to reduce the time spent in the attendance process using computer vision and machine learning techniques.

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### **Equation Solver Using OCR Recognition (2014)**

Associate with Sudan University of Science and Technology (SUST).

The project aims to solve pre-written equations after photographing them with a mobile camera.

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### **Augmented Reality Social Network**

Associate with Sudan University of Science and Technology (SUST).

The project aims to build a social network by using augmented reality technology, where the post is added in the real environment and then reviewed by others in the place where it was placed. The same technique was used in the educational aspect by adding some questions in specific places and then the student searches for the questions and solves them.

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### **Digital Extinguisher Training System**

Associate with Sudan University of Science and Technology (SUST) and Al-Zarqaa engineering Complex.

The project aims to provide firefighting training using virtual reality.

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### **Development of Gun Game Using Unity 3D Platform.**

Associate with Sudan University of Science and Technology (SUST) and Al-Zarqaa engineering Complex.

The project is a first person shot(FPS) game using Unity 3D

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### **3D Car Driving Simulator**

Associate with Sudan University of Science and Technology (SUST) and Al-Zarqaa engineering Complex.

The project aims to learn how to drive cars and traffic laws in a virtual environment that represents a real environment. The project was implemented using Unity3D.

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### **Intelligence Call Center based on Speech Recognition and NLP**

Associate with Sudan University of Science and Technology (SUST).

The project is an automated call center to solve customer problems for telecommunications companies as a model using voice recognition and natural language processing techniques.

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### **Virtual Chemical Lab**

Associate with Sudan University of Science and Technology (SUST).

The project aims to create a virtual chemistry laboratory environment for the purpose of teaching students in the absence of real chemistry laboratories and reducing the materials consumed in the educational process.

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### **Traffic Lights Control System Using Computer Vision**

Associate with Sudan University of Science and Technology (SUST).

The project aims to use computer vision to control traffic lights based on traffic after identifying the number of cars on each street in order to reduce traffic congestion.

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## **Academic Activities**

### **Results Committee, Sudan University of Science and Technology**

Dealing with the results system (data entry and supervision)

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### **Examination Committee, Sudan University of Science and Technology**

Supervising the examination process.

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### **Undergraduate Projects Management, Sudan University of Science and Technology.**

Managing the process of distributing graduation projects to supervisors and supervising discussions.

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### **External Examiner, University of Garden City, Sudan.**

Approval of a new program at the university (Diploma in Information Technology) in a committee affiliated with higher education

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### **External Examiner, The Future University, Sudan.**

Approval of a new program at the university (Networking Diploma) in a committee affiliated with higher education

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## **Research expertise**

Guest Editor on Special Issue "Imaging Studies for Face and Gesture Analysis" on behalf of Journal of Imaging.

Program Committee on the First Facial Micro-Expressions Grand Challenge (MEGC) in conjunction with FG2018.

Program Committee on the Second Facial Micro-Expressions Grand Challenge (MEGC) in conjunction with FG2019

IEEE Access Guest Reviewer.

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## **Language**

Arabic (Native), English

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## **Skills**

- University Lecturing
- Research
- Academic Administration
- Computer Vision
- Artificial intelligence

- Machine Learning
- Technical Writing
- Java
- C, C++
- Matlab
- Python
- UML
- Computer Graphics

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### **Achievements & Awards**

- . Best National Application Award Issued by Ministry Of Information Technology And Communication- National Information Center , (Aug 2010) Sudan
- . SUST Representative Issued by Scientific Forum For Engineering And Computer Students ,(Feb 2007) Sudan.
- . Participate in AOI Arabic Olympiad in Informatics (July 2005) Syria

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### **Reference**

#### **Izzeldin Mohamed Osman - Professor**

Sudan University of Science and Technology  
izzeldin@acm.org

#### **Moi Hoon Yap - Professor of Image and Vision Computing and the lead of Human-Centred Computing**

Manchester Metropolitan University.  
m.yap@mmu.ac.uk

#### **Mohamed Elhafiz Mustafa Musa - Associate professor**

Jouf university,  
College of computer and information sciences.  
mazainelabdeen@ju.edu.sa

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