



## Personal Details:

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**Name:** Mostafa Mahmoud Ibrahim Mahmoud

**Date of Birth:** 1, May, 1987.

**Place of Birth:** Edfo, Aswan, Egypt.

**Nationality:** Egyptian.

**Marital Status:** Married.

**Specialty:** Communication and Electronic Engineering

**Employment and Studying:** Since **November 2020**, Assistant Professor in Electrical Engineering Department, Faculty of Engineering, Minia University, Egypt.

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## Contact

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## Languages

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Arabic – Native

English – C1

## Education

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- **May 2009:** BSc in Electrical Engineering (Communications & Electronics) with grade (**Very good, with honor grade, Ranked 84.11%**), Faculty of Engineering, Minia University, Egypt.
- **Graduation Project:** Project Title: “**Implementation of Digital Circuits Using FPGA**” with grade (**Distinction**).
- **December 2015:** MSc in “**Electrical Engineering**”, Thesis Title: “**Applications of Adaptive Tools on Signal Processing**”, Faculty of Engineering, Minia University, Egypt.
- **July 2020:** PhD in “**Information and Communication Engineering**” at School of Electronic Information and Communications, Huazhong University of Science and Technology, Wuhan, China. Thesis Title: “**Color-Guided Depth Map Filtering and Super-resolution for RGB-D Sensors**”. This thesis examines the use of recent depth map acquisition devices such as Kinect and ToF cameras for enhancing the depth maps used for 3D applications such as 3DTV, robot navigation, and autonomous self-driving cars. I developed many optimized color-guided techniques for enhancing and filtering the acquired depth maps from RGBD sensors and compared them with deep learning framework using Convolutional Neural Network (CNN).

## Skills and Interests

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- Programming languages (**C++, Python, and MATLAB/SIMULINK**).
- Implementation tools and languages (**VHDL, OrCAD, Multisim, ModelSim, and Xilinx ISE**).
- Deep learning libraries (**Pytorch, Tensorflow and Keras**).
- Computer vision library (**OpenCV**).
- 3D photogrammetry and mesh tools (**Meshroom, Meshlab**)
- Innovative and complex problem solver.

## Awards

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- **Impact in Society Awards related to IET (Institution of Engineering and Technology):** as one member of the FINALIST team belong to Huazhong University of Science and Technology (HUST) in the category of Digital Future (**28 March 2023**)

<https://www.theiet.org/impact-society/awards-scholarships/impact-in-society-awards/impact-in-society-awards-teams-winners-and-finalists/>

## Courses and Trainings

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- A summer training in **Egyptian Ferro Alloys Company** (Edfo, July-August 2007, four weeks).
- **GSM & GPRS** course in Jeilecom Egypt A.D. Panasonic center for training (Cairo, August-September 2007).
- A summer training in **Egyptian Ferro Alloys Company** (Edfo, August 2008, four weeks).
- A summer training in **Telecom Egypt** (Edfo sector, July-August 2008, two weeks).
- **MoHESR AWS Academic Staff Program** (From 1 Oct 2023 to 31 Dec 2023).

## Teaching

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- **2011-2016 as Lecturer Assistant:** Teaching Undergraduate Courses. “**Analog and Digital Communication Systems**”, “**Neural Networks**”, “**Signals and Systems**”, “**Electronic Circuits**”, “**Signal Processing**”, and “**Programming languages**”.
- **2020– till now as Assistant Professor:** Teaching Undergraduate Courses. “**Digital Design**”, “**Image Processing**”, “**Computer vision**”.
- Teaching Master Courses “**Stochastic Process**”, “**Advanced Image processing topics**” and “**Wireless Communication**”.
- Teaching Undergraduate Courses: “**Digital Circuits**”, “**Digital Signal Processing**” and “**Electronic Semiconductor Devices**” in the Department of Mechanical Engineering – Mechatronics, at **El Minya High Institute for Engineering and Technology (MHIET)**.
- Teaching Undergraduate Courses: “**Communication systems**”, “**Digital Communication**” and “**Optical Fiber Communication**” in the Department of Electrical and Computer Engineering, at **El Minya High Institute for Engineering and Technology (MHIET)**.

## Projects Supervision

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- **Project1: “Hardware Implementation of Image Processing using FPGA”**, Electrical Engineering Department, Faculty of Engineering, Minia University, 2022.
- **Project2: “Integrated Infrastructure and Network Solution”**, Electrical Engineering Department, Faculty of Engineering, Minia University, 2023.

## Research Interests

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- **Computer vision.**
- **Human motion analysis and prediction.**
- **Depth image-based applications.**
- **Signal processing for wireless communication systems.**
- **Biomedical image Processing**

## Publications

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- [1] A.M. Khalaf, **M. M. Ibrahim**, H. F. A. Hamed, and M. A. Abdelghany, “ECG Noise Canceller: Studying and Performance Improvement under Different Algorithms”, **International Conference on Aerospace Sciences & Aviation Technology (ASAT)**, 2015, Cairo, Egypt, pp. 1-18. DOI: [10.21608/asat.2015.22920](https://doi.org/10.21608/asat.2015.22920)

- [2] A. A.M. Khalaf, **M. M. Ibrahim**, and H. F. A. Hamed, "Performance study of adaptive filtering and noise cancellation of artifacts in ECG signals", *International Conference on Advanced Communication Technology (ICACT)*, 2015, Seoul, South Korea, pp. 394-401. DOI: [10.1109/ICACT.2015.7224826](https://doi.org/10.1109/ICACT.2015.7224826)
- [3] A. A.M. Khalaf, A. M. Said, **M. M. Ibrahim**, and H. F. A. Hamed, "Impact of Partial Update on Denoising Algorithms of ECG Signals", *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, Feb 2018.
- [4] **M. M. Ibrahim**, Q. Liu, "Optimized color-guided filter for depth image denoising", *International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, United Kingdom, May 2019, pp.8568–8572. DOI: [10.1109/ICASSP.2019.8683416](https://doi.org/10.1109/ICASSP.2019.8683416)
- [5] **M. M. Ibrahim**, Q. Liu, and Y. Yang, "An adaptive colour-guided non-local means algorithm for compound noise reduction of depth maps", *IET Image Processing*, April 2020. DOI: [10.1049/iet-ipr.2019.0074](https://doi.org/10.1049/iet-ipr.2019.0074)
- [6] **M. M. Ibrahim**, Q. Liu, R. Khan, J. Yang, E. Adeli, and Y. Yang, "Depth map artefacts reduction: a review", *IET Image Processing*, May 2020. DOI: <https://doi.org/10.1049/iet-ipr.2019.1622>
- [7] Y. Chen, Z. Hong, D. Sun, Z. Peng, N. Zhang, K. Luo, C. Liu, J.Tian, Y. Qing, C. Li, **M. M. Ibrahim**, and Y. Yang, "Color-guided optimization model with reliable self-structure priors for depth map restoration", *OSA Continuum*, July 2021. DOI: <https://doi.org/10.1364/OSAC.430664>
- [8] M. Eman, T. M. Mahmoud, **M. M. Ibrahim**, and T. Abd El-Hafeez, "Innovative Hybrid Approach for Masked Face Recognition Using Pretrained Mask Detection and Segmentation, Robust PCA, and KNN Classifier", *Sensors*, July 2023. DOI: <https://doi.org/10.3390/s23156727>
- [9] A. Mehmood, F. Shahid, R. Khan, **M. M. Ibrahim**, and Z. Zheng, "Utilizing Siamese 4D-AlzNet and Transfer Learning to Identify Stages of Alzheimer's Disease", *Neuroscience*, March 2024. DOI: <https://doi.org/10.1016/j.neuroscience.2024.03.007>
- [10] R. Khan, A. Mehmood, F. Shahid, Z. Zheng, **M. M. Ibrahim**, "Lit me up: A reference free adaptive low light image enhancement for in-the-wild conditions", *Pattern Recognition*, April 2024. DOI: <https://doi.org/10.1016/j.patcog.2024.110490>
- [11] Farhatullah, X. Chen, D. Zeng, A. Mehmood, R. Khan, F. Shahid, **M. M. Ibrahim**, "3-Way hybrid analysis using clinical and magnetic resonance imaging for early diagnosis of Alzheimer's disease", *Brain Research*, May 2024. DOI: <https://doi.org/10.1016/j.brainres.2024.149021>
- [12] M. Alsmadi, A. Mehmood, Z. Zheng, M. R. Khan, A. AL SMADI, F. Shahid, Y. Y. MOHAMMA GHADI, S. A. Shah, S. Iqbal, **M. M. Ibrahim**, "Enhancing Mild Cognitive Impairment Detection through Efficient Magnetic Resonance Image Analysis", *CMC-Computers, Materials & Continua*, (Accepted).