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Mohamed Hammad

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Gamal Abdel Nasser Street, Shibin El-Kum, Menoufia, 32714, Menoufia, Egypt

About me: Received my M.Sc degree in 2015, Information Technology Department, Faculty of Computers and Information, Menoufia University, Egypt, and the Ph.D. degree in 2019, School of Computer Science and Technology, Harbin Institute of Technology, Harbin, China. I'm currently an Assistant Professor in Faculty of Computers and Information, Menoufia University, Egypt. My research interests include Computer Vision, Digital forensics, IoT, Machine Learning, Pattern Recognition, and Biometrics. I have published more than 20 papers in international SCI-IF journals. I have served as a Topics Board editor in Forensic Sciences (MPDI) journal, a guest editor in many international journals such as International Journal of Digital Crime and Forensics (IJDCF) and reviewer of more than 100 papers for many prestigious journals such as IEEE Trans on Sys, Man and Cyber: Systems, IEEE Trans on Cybernetics, IEEE Access, PLOS ONE, Pattern Recognition Letters, Comp in Bio and Med, etc.

● WORK EXPERIENCE

01/04/2011 – 21/06/2019

ASSISTANT LECTURER AT INFORMATION TECHNOLOGY DEPARTMENT. FACULTY OF COMPUTERS AND INFORMATION – MENOUFIA UNIVERSITY

I am assistant lecturer at department of Information Technology. I am responsible for teaching practical labs and assist professors in preparing courses. Additionally, I am working with my group members in developing different projects related to pattern recognition, machine learning, computer vision, digital image processing, digital signal processing and biometrics.

Education | www.mu.menofia.edu.eg | Gamal Abdel Nasser Street, 32714, Menoufia, Egypt

11/07/2019 – CURRENT

ASSISTANT PROFESSOR AT INFORMATION TECHNOLOGY DEPARTMENT. FACULTY OF COMPUTERS AND INFORMATION – MENOUFIA UNIVERSITY

Education | www.mu.menofia.edu.eg | Gamal Abdel Nasser Street, 32714, Menoufia, Egypt

01/08/2020 – CURRENT – Menoufia , Egypt

E-LEARNING COORDINATOR – FACULTY OF COMPUTERS AND INFORMATION, MENOUFIA UNIVERSITY, EGYPT

- Design, prepare and order educational aids and materials.
- Develop training aids such as manuals and handbooks.
- Develop training resources and facilitate groups of trainees in learning how to use the institutional online learning management system.
- Work with a team to establish a plan for online course/curriculum development.
- Maintain and update training records.
- Act as an ambassador for online learning.
- Assist with placement of orders, refunds, or exchanges.
- Communicate organizational policies and procedures.
- Support and help trainees in their day to day E-learning needs.

01/08/2020 – CURRENT – Menoufia, Egypt

INTERNATIONAL STUDENT EXCHANGE COORDINATOR – FACULTY OF COMPUTERS AND INFORMATION, MENOUFIA UNIVERSITY, EGYPT

- Lead the entire process of an international exchange study for the exchange students.

- Manage the students' applications and admissions, arrange accommodation, be it on a college or university campus or with guest families, and handle all the administration regarding these activities, including the student's grades and official departing.
- Guides for the (young) international students through their cultural adjustment.

● EDUCATION AND TRAINING

01/09/2006 – 01/09/2010 – Menoufia, Egypt
B.SC OF INFORMATION TECHNOLOGY – Menoufia University

Major Courses: Digital signal processing ,Speech Recognition, Image processing, Computer vision, Data compression, Pattern Recognition, Multimedia, Mathematics, Networks,Database Systems, Java Programming ,Machine Learning ,Computer organization and architecture , C++ Programming.Total Grade: 78.3% (Very Good).

12/09/2013 – 01/09/2015 – Menoufia, Egypt
M.SC OF INFORMATION TECHNOLOGY – Menoufia University

Thesis Title: " Electrocardiogram for Biometric Authentication"
 Introduce a solution for the protection and confidentiality of our information without the need of password that can penetrate or replicated or stolen. Also introduce a new biometric identification system using ECG and to overcome limitations of traditional biometric identification like iris, fingerprint and etc.

01/09/2016 – 21/06/2019 – Harin, China
PH.D OF COMPUTER SCIENCE AND TECHNOLOGY – Harbin Institute of Technology

Thesis Title: "A Multi-Biometric System for Identity Verification Based on ECG and Fingerprints". Propose a novel multi-biometric system which integrates ECG with fingerprints using different combinations of fusion methods. Our system overcomes the limitations of both single systems, improve the performance of the overall system and enhance the security, as in this system we combine two characteristics, one is physical (fingerprint) and the other is vital (ECG) which offers the advantage of aliveness detection to the system that makes the system robust to spoof attacks. Unlike other multimodal biometric systems that would be very inconvenient (e.g. a face, ear and fingerprint-based multimodal biometric system), the ECG signals can easily be acquired from fingers, which make the system very convenient and efficient.

● LANGUAGE SKILLS

Mother tongue(s): ARABIC

Other language(s):

| | UNDERSTANDING | | SPEAKING | | WRITING |
|----------------|---------------|---------|-------------------|--------------------|---------|
| | Listening | Reading | Spoken production | Spoken interaction | |
| ENGLISH | B2 | C1 | C1 | C1 | B2 |

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● PUBLICATIONS

Journal Publications

- **Hammad M**, Ibrahim M and Hadhoud M. A Novel Biometric Based on ECG Signals and Images for Human Authentication. *International Arab Journal of Information Technology*. 2016.
- **Hammad M**, Maher A, Wang K, Jiang F and Amrani M. Detection of abnormal heart conditions based on characteristics of ECG signals. *Measurement*. 2018.
- **Hammad M**, Luo G and Wang K. Cancelable Biometric Authentication System Based on ECG. *Multimedia Tools and Applications*. 2018.
- Amrani M, **Hammad M**, Jiang F and Wang K. Very Deep Feature Extraction and Fusion for Arrhythmias Detection. *Neural Compu and Appl*. 2018.
- **Hammad M** and Wang K. Parallel Score Fusion of ECG and Fingerprint for Human Authentication based on Convolution Neural Network. *Computers & Security*. 2019.
- **Hammad M**, Yashu L and Wang K. Multimodal Biometric Authentication Systems Using Convolution Neural Network based on Different Level Fusion of ECG and Fingerprint. *IEEE Access*. 2019.
- **Hammad M**, Zhang S and Wang K. A Novel Two-Dimensional ECG Feature Extraction and Classification Algorithm based on Convolution Neural Network for Human Authentication. *Future Generation Computer Systems*. 2019.
- H Wang, MJ Bah, **M Hammad**. Progress in Outlier Detection Techniques: A Survey. *IEEE ACCESS*. 2019.
- Bah MJ, Wang H, **Hammad M**, Zeshan F, Aljuaid H. An Effective Minimal Probing Approach With Micro-Cluster for Distance-Based Outlier Detection in Data Streams. *IEEE Access*. 2019.
- **Hammad M**, Pławiak P, Kuanquan W, U Acharya. ResNet-Attention model for human authentication using ECG signals. *Expert Systems*. 2020.
- Alghamdi A, **Hammad M**, et al. Detection of Myocardial Infarction Based on Novel Deep Transfer Learning Methods for Urban Healthcare in Smart Cities. *Multimedia Tools and Applications*. 2020.
- Ahmed S, Iliyasa.M A, Basma A, Abdel Samea M, Asmaa A, **Hammad M**, et al. Deploying machine and deep learning models for efficient data-augmented detection of covid-19 infections. *Viruses*. 2020.
- Książek W, **Hammad M**, Pławiak P, Acharya U. R, & Tadeusiewicz R. Development of novel ensemble model using stacking learning and evolutionary computation techniques for automated hepatocellular carcinoma detection. *BioCybernetics and Biomedical Engineering*. 2020.
- **Hammad M**, Abdullah M, Edmond S. L, Ahmed A. A. A Multi-tier Deep Learning Model for Arrhythmia Detection. *IEEE Transactions on Instrumentation & Measurement*. 2020.(Accepted).
- Ahmed S, **Hammad M**, Fathi E, Ahmed A. A. Efficient Deep Learning Approach for Augmented Detection of Coronavirus Disease. *Neural Computing and Applications*. 2020.
- Zhang W, Ibrahim A. E, **Hammad M**, et al. Secure and Optimized Load Balancing for Multi-Tier IoT and Edge-Cloud Computing Systems. *IEEE Internet of Things Journal*. 2020.
- **Hammad M**, MH Alkinani, BB Gupta, AA Abd El-Latif. Myocardial infarction detection based on deep neural network on imbalanced data. *Multimedia Systems*. 2021.

Conference Publications

- **Hammad M**, Maher A, Khan A, Jiang F and Wang K, 2018. Detection of Abnormal Heart Conditions from the Analysis of ECG Signals. In *BIOSIGNALS*.
- Omara I, Emam M, **Hammad M** and Zuo W, 2017. Ear verification based on a novel local feature extraction. In *Proceedings of the 2017 International Conference on Biometrics Engineering and Application*.
- **Hammad M** and Wang K, 2017. Fingerprint classification based on a Q-Gaussian multiclass support vector machine. In *Proceedings of the 2017 International Conference on Biometrics Engineering and Application*.

● NETWORKS AND MEMBERSHIPS

Memberships

[2009-2010] Open source University Meetup (OSUM) Member of Menoufia OSUM Group at SUN academic Program for Universities.

[2008-2010] MUFIX Community Volunteer: a group of Volunteer Students which aim to help student in acquiring knowledge and keep in touch with the most used technologies ,we organize weekly sessions and I was a volunteer organizer and as well as speaker in some events.

[2016-2019] Member of Research Group for Computational Photography and Statical Learning, Harbin Institute of Technology, School of Computer Science and Technology, Harbin, China.

● CONFERENCES AND SEMINARS

Conferences

Committee Member of [GMC-Technology 2020](#).

Conferences

TPC member of [1st Mosharaka International Conference on Information Technologies and Information Systems \(MIC-InfoTech 2020\)](#)

Conferences

Congress Board Member of GC-Technology 2020

● COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal skills

Very good communication skills gained through my experience as a teacher assistant at the faculty of computers and information

● JOB-RELATED SKILLS

Job-related skills

Programming skills:

- Java : J2EE, Matlab (proficient)
- C++, Python (Very Good)
- Database Engines : Oracle (Good)
- Familiarity with PHP and Web service

Research skills:

- Digital Image processing
- Digital Signal Processing
- Biometrics
- Machine Learning
- Deep Learning
- Pattern Recognition
- Biomedical Imaging
- Mathematics

● CERTIFICATIONS

01/01/2021 – CURRENT

Topics Board Editor at Forensic Sciences (MDPI) Journal

Certifications

Certificate of Reviewing in recognition of the review contributed to the **Pattern Recognition Letters** journal.

Certifications

Certificate of reviewing in recognition of the review made for the **COMPUTERS IN BIOLOGY AND MEDICINE** journal

Certifications

Certificate of reviewing in recognition of the review made for the **MEASUREMENT** journal

Certifications

CERTIFICATE OF REVIEWER RECOGNITION 2019 For publication in **IEEE trans on Systems, Man and Cybernetics: Systems.**

Certifications

CERTIFICATE OF REVIEWER RECOGNITION 2018 and 2019 For publication in **IEEE Access (more than 10 papers)**

Certifications

CERTIFICATE OF REVIEWER RECOGNITION 2019 For publication in *IEEE Transactions on Cybernetics.*

Certifications

CERTIFICATE OF REVIEWER RECOGNITION 2019 For publication in **PLOS ONE (more than 10 papers)**

Certifications

CERTIFICATE OF REVIEWER RECOGNITION 2019 For publication in **International Journal of Applied Mathematics & Computer Science**

Certifications

CERTIFICATE OF REVIEWER RECOGNITION 2018 For publication in **The Third International Conference on Biological Information and Biomedical Engineering (more than 5 papers).**

Certifications

CERTIFICATE OF REVIEWER RECOGNITION 2016 For publication in **the 10th international conference on informatics and systems Cairo, Egypt.**

Certifications

CERTIFICATE OF REVIEWER RECOGNITION 2015 For publication in **1st International Conference on Multimedia Systems, Networks and Technologies (MIC-Multimedia 2015)**

Certifications

CERTIFICATE OF REVIEWER RECOGNITION 2019 For publication in **Physica A** Journal.

Certifications

CERTIFICATE OF REVIEWER RECOGNITION 2019 For publication in **Cognitive Systems Research** Journal.

Certifications

CERTIFICATE OF REVIEWER RECOGNITION 2019 For publication in the Journal of **Cloud Computing.**

Certifications

CERTIFICATE OF REVIEWER RECOGNITION 2019 For publication in **Recent Patents on Computer Science** Journal.

CERTIFICATE OF REVIEWER RECOGNITION 2020 PeerJ Computer Science

CERTIFICATE OF REVIEWER RECOGNITION 2020 ACM Transactions on Cyber-Physical Systems

CERTIFICATE OF REVIEWER RECOGNITION 2020 Technological Forecasting and Social Change

CERTIFICATE OF REVIEWER RECOGNITION 2020 IEEE Transactions on Artificial Intelligence

CERTIFICATE OF REVIEWER RECOGNITION 2020 IEEE MultiMedia

CERTIFICATE OF REVIEWER RECOGNITION 2020 Journal of Ambient Intelligence and Humanized Computing

CERTIFICATE OF REVIEWER RECOGNITION 2020 IEEE Transactions on Network Science and Engineering

Certifications

Certificate of Honor for being **Editorial Board Member** for *Artificial Intelligence Evolution Journal* 2019.

Guest Editor in International Journal of Digital Crime and Forensics (IJDCF)

<https://www.igi-global.com/calls-for-papers-special/international-journal-digital-crime-forensics/1112>

● REFERENCES

References

Available upon request.