­­­­­­­­­­­**Education:**

**Mohamed Sameer Abdallah, PhD**

**영주 (F-5 visa)**

Postdoctoral Researcher, Computer Engineering Dept., **Gachon University**,Seoul, Republic of **Korea**.

AI & CV Senior Researcher, **DeltaX Co., Ltd. (주) 델타엑스**, 590 Gyeongin-ro, Guro-gu, Seoul, Republic of **Korea**.

Assistant Professor, Informatics Research Dept., Electronics Research Institute (ERI),Ministry of Scientific Research, **Egypt**.

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LinkedIn: <https://www.linkedin.com/in/mohamed-sameer-abdallah-91424740/>

Web of Sciense: <https://www.webofscience.com/wos/author/record/AAF-8584-2020>

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57211943905>

Google Scholar: <https://scholar.google.com/citations?user=yngA4KAAAAAJ&hl=en>

* ***Jan 2016 – May 2020:*** **PhD.**, Computer Engineering Dept., Cairo University, Egypt.
* ***Dissertation:*** Zero-Shot Deep Learning for Media Mining: Person Spotting and Face Clustering in Video Big Data.
* ***Fields:*** Image Processing, Computer Vision, and Artificial Intelligent.
* ***Special expertise areas:*** Deep Learning – Neural Networks & CNN – Face Detection & Recognition – Object Detection & Recognition – Python & Deep learning frameworks.
* ***Comprehensive Exam (****5 Subjects****):*** Image Processing and Computer Vision, Advanced Databases, AI, Parallel Processing, and Advanced Computer Architecture.
* ***Graduate Courses (****7 Courses****):*** Image Processing and Computer Vision, Machine Learning II, Software Testing, Expert Systems, Parallel Processors and CUDA Programming, Advanced Computer Architecture, and Advanced Computer Security. ***GPA:* 3.20 / 4**.
* ***Sept 2008 - Jul 2012:* MSc.,** Computer Engineering Dept., Cairo University, Cairo, Egypt.
* ***Dissertation:*** Dynamic Hand Gesture Recognition of Arabic Sign Language Using Correlation Coefficients.
* ***Graduate Courses (****8 Courses****):*** Image Processing and Computer Vision, Advanced Computer Networks, Genetic Algorithms and Neural Networks, Computer system modeling and simulation, Computer and Numerical Analysis, and Technical Writing.
* **Dec 2006 - Nov 2007:** Certificate in Software Engineering methods and Management Techniques. NCC Education, Didsbury, Manchester, **United Kingdom**.
* **Sept 1999 - Jul 2004: BSc.,** Computer Engineering Dept., Al-Azhar University, Cairo, Egypt.
* ***Final Grade:* V. Good**.
* ***Graduation project:*** Design of an E-Commerce Agent-Based Information System, ***Grade:*** **Distinction**.

### **Academic Employment & Research Experience:**

* ***Oct 2022 - Present:* AI & CV Senior Researcher, Advanced R&D Automotive Perception Group, DeltaX Co., Ltd. (주) 델타엑스 , South Korea.** 
  + Mentoring and overseeing several project-based teams of engineers and researchers, setting clear objectives, fostering a collaborative culture, and promoting professional development for ADAS and in-cabin monitoring systems (DMS-OMS).
  + Conducting and tackling some of the most challenging industrial projects, developing cutting-edge proof of concepts, and driving forward groundbreaking R&D initiatives.
  + **Developing AI Models**: Utilized ML algorithms and DL frameworks to create tailored AI models for specific applications. Researched novel architectures to improve model performance.
  + **Project Management**: Overseeing multiple complex projects, ensuring alignment with organizational goals, managing budgets, resources, and mitigating risks.
  + **Technical Leadership**: Serving as the primary technical lead for R&D projects, guiding the design and implementation of advanced perception algorithms and systems.
  + **Strategic Planning**: Developing and executing strategic plans, identifying emerging technologies, and evaluating market trends to drive innovation and growth.
  + **Quality Assurance**: Ensuring adherence to quality standards and compliance with industry regulations through rigorous testing and auditing processes.
  + **Performance Monitoring**: Monitoring project performance and key metrics, identifying trends, and making data-driven decisions to optimize outcomes.
  + Developing and producing ultralight AI models that are portable to edge devices.
* ***Feb 2022 - Jan 2023:* Postdoctoral Researcher, Computer Engineering Dept., Gachon University, South Korea.**
  + Developing AI Models: Utilized ML algorithms and DL frameworks to create tailored AI models for specific applications. Researched novel architectures to improve model performance.
  + Conducting and helping develop research projects related to AI and Deep Learning Like:
    - *Hairstyle Service Using GANs*.
    - *Dynamic Sign Language Recognition.*
    - *AI Light weighting Standardization.*
    - *AI inference Optimization.*
* ***Feb 2019 - Jan 2020:* Researcher, Electronics Dept., Chungbuk National University, South Korea.**
  + Conducting and helping develop research in Deep Learning using Frameworks like TensorFlow and PyTorch.
  + Conducting and helping develop research and develop a Deep Learning Models for Object Detection, Multi-Vehicle Tracking.
  + Assisting in collecting, gathering and analyzing Multi- Camera Vehicle Dataset.
* ***Jan 2016- Jan 2020:* Ph.D. Researcher, Dept. of Computer Engineering, Cairo University, Cairo, Egypt.**
  + Conducting and helping develop research in Deep Learning.
  + Conducting and helping develop research in Deep Learning Frameworks like TensorFlow – Torch – Caffe2.
  + Conducting and helping develop research on Face Detection, Clustering and Recognition.
  + Conducting and helping develop a Deep Learning Models for Face Detection, Clustering, and Recognition.
  + Assisting in collecting, gathering and analyzing Face Datasets.
  + Conducting and helping develop research on Object Detection, Clustering and Recognition using deep learning Models like Yolo.
* ***Jul 2014 - Present:* Research Associate, Electronics Research Institute, Giza, Egypt.**
  + Building a mobile robot with vision navigation.
  + Conducting and helping develop research in Image processing Algorithms.
  + Conducting and helping develop research in Distance measurement between a robot and the object.
* ***Sep 2009 – Dec 2012:* Assistant Researcher, Dept. of Computer Engineering, Cairo University, Cairo, Egypt.**
  + Conducting and helping develop research in various image processing Algorithms.
  + Conducting and helping develop research on Arabic Sign Language Recognition.
  + Assisting in collecting, gathering and analyzing Arabic Sign Language Datasets.

### **Current Research Interest:**

* Image Processing & Computer Vision.
* Artificial Intelligent, Deep Learning, Machine Learning and Neural Networks – CNN.
* Face Detection, Clustering, and Recognition, Gesture Recognition, Sign language Recognition.
* Object Detection and Recognition.
* Self-Driving Cars.
* Multi-Vehicle Tracking.
* Multi- Camera Vehicle Tracking.
* Digital Image Processing for Medical Applications.

### **Teaching Experience:**

* ***Sep 2020 – Feb 2022:*** **Adjunct Professor at Faculty of Engineering, Zewail University of Science and Technology.**
  + ***Delivered tutorials, slides, and graded assignments for the following courses:***
    - (Fall 2020) Introduction to Computer science using python course (average enrollment= 30).
    - (Spring 2021) Introduction to Computer science using python course (average enrollment= 60).
    - (Summer 2021) Introduction to Computer science using python course (average enrollment= 20).
* ***March 2021 – Feb 2022:*** **Adjunct Professor at Faculty of Engineering, MSA University.**
  + ***Delivered tutorials, slides, and graded assignments for the following courses:***
    - (Spring 2021) Image Processing and Computer Vision course (average enrollment= 16).
* ***March 2021 – Feb 2022:*** **Adjunct Professor at Faculty of Engineering, Ahram Canadian University.**
  + ***Delivered tutorials, slides, and graded assignments for the following courses:***
    - (Spring 2021) Pattern Recognition and Deep Neural Networks course (average enrollment= 17).
* ***Sep 2010 - Dec 2018:*** **Part-time Teaching Assistant at Faculty of Engineering, Cairo University.**
  + Delivered tutorials, slides, and graded assignments for Image Processing, Matlab, and C++ courses.
* **Sep 2005 - May 2014:** Teaching Assistant at Higher Institute of Computer Science & Information Systems, 6th October City, Giza, Egypt.
* ***Delivered tutorials, slides, and graded assignments for the following courses:***
  + *Image Processing and Computer Vision* (average enrollment= 60).
  + *AI and Machine learning* (average enrollment= 40).
  + *Expert Systems* (average enrollment= 20).
  + *MATLAB Fundamentals* (average enrollment= 60)
  + *Programming Languages* (C, C++, C#, VB.NET, and JAVA).
  + *Computer and Wireless Networks* (average enrollment= 35).
  + *Computer and Network Security* (average enrollment= 20).
  + *Operating Systems and File Processing* (average enrollment= 20).
  + *Data Structures & Algorithms* (average enrollment= 55).
  + *System analysis & Design (UML)* (average enrollment= 30).
  + *Software Engineering, Software Testing* (average enrollment= 25).
  + *Databases (MS SQL Server Tracks)* (average enrollment= 50).
  + *Physics, Electronics, Digital Logic Design, and Microprocessors*.
  + *Numerical Analysis, Calculus, Probability & statistics.*
* ***Supervised the following graduation projects***:
  + *Sign Language Recognition, Face Detection & Recognition, Vehicle Detection, and Tracking, Arabic OCR, License plate recognition, Cloud computing, E-learning, ERP, CRM, Agent-Based Information System, VOIP, Electronic Passport, E-Commerce, ……………etc.)*

### **Publications:**

* **Refereed Journal Articles (23 Papers):**
* **Mohamed S. Abdallah**, et al. *Accelerating Deep Learning-Based Morphological Biometric Recognition with Field-Programmable Gate Arrays.*

**AI 2025**, 6(1), 8; Multidisciplinary Digital Publishing Institute, <https://doi.org/10.3390/ai6010008> .

* **Mohamed S. Abdallah**, et al.  *SIBS: A sparse encoder utilizing self-inspired bases for efficient image representation.*

**Knowledge-Based Systems, ELSEVIER 2024**, volume 301, 112275; <https://doi.org/10.1016/j.knosys.2024.112275>

* **Mohamed S. Abdallah**, et al. *Automated Multi-Class Facial Syndrome Classification Using Transfer Learning Techniques.*

**Bioengineering 2024**, 11(8), 827; Multidisciplinary Digital Publishing Institute, <https://doi.org/10.3390/bioengineering11080827> .

* **Mohamed S. Abdallah**, et al.  *Enhancing Mobile Ad Hoc Network Security: An Anomaly Detection Approach Using Support Vector Machine for Black-Hole Attack Detection.*

**IJSSE, 2024,** International Information and Engineering Technology Association (IIETA), <https://doi.org/10.18280/ijsse.140401> .

* **Mohamed S. Abdallah**, et al. *Reinforcing-Query-based-Surveillance-Synopsis-Security-through-Distributed-Computing.*

**JTAIT 2024**, Journal of Theoretical and Applied Information Technology, <http://www.jatit.org/volumes/Vol102No24/26Vol102No24.pdf> .

* **Mohamed S. Abdallah**, et al.  *Securing Online Job Platforms: A Distributed Framework for Combating Employment Fraud in the Digital Landscape.*

**IJSSE, 2024,** International Information and Engineering Technology Association (IIETA), <https://doi.org/10.18280/ijsse.140601> .

* **Mohamed S. Abdallah**, et al. *An Innovative Thermal Imaging Prototype for Precise Breast Cancer Detection: Integrating Compression Techniques and Classification Methods.*

**Bioengineering 2024**, 11(8), 764; Multidisciplinary Digital Publishing Institute, <https://doi.org/10.3390/bioengineering11080764> .

* **Mohamed S. Abdallah**, et al. *Micro Cloud Services Forensics as a Framework.*

**IJSSE, 2024,** International Information and Engineering Technology Association (IIETA), <https://doi.org/10.18280/ijsse.140210> .

* **Mohamed S. Abdallah**, et al. *Digital Documents Integrity Protection Using Invisible Changeable Watermark.*

**Traitement du Signal, 2024,** International Information and Engineering Technology Association (IIETA), <https://doi.org/10.18280/ts.410338> .

* **Mohamed S. Abdallah**, et al. *Lightweight Computational Complexity Stepping Up the NTRU Post-Quantum Algorithm Using Parallel Computing.*

**Symmetry 2024**, 16(1), 12; Multidisciplinary Digital Publishing Institute, <https://doi.org/10.3390/sym16010012> .

* **Mohamed S. Abdallah**, et al. *A Robust Algorithm for Digital Image Copyright Protection and Tampering Detection: Employing DWT, DCT, and Blowfish Techniques.*

**Traitement du Signal, 2023,** International Information and Engineering Technology Association (IIETA), <https://doi.org/10.18280/ts.400520> .

* **Mohamed S. Abdallah**, et al. *Visual-based children and pet rescue from suffocation and incidence of hyperthermia death in enclosed vehicles.*

**Sensors** **2023**, 23(16), 7025; Multidisciplinary Digital Publishing Institute, <https://doi.org/10.3390/s23167025> .

* **Mohamed S. Abdallah**, et al. *Object Detection-based Automatic Waste Segregation using Robotic Arm.*

**IJACSA** **2023**, International Journal of Advanced Computer Science and Applications, <http://doi.org/10.14569/IJACSA.2023.0140697> .

* **Mohamed Sameer**, et al. *User Preference-Based Video Synopsis Using Person Appearance and Motion Descriptions*.

**Sensors** **2023**, 23(3), 1521; Multidisciplinary Digital Publishing Institute, <https://doi.org/10.3390/s23031521> .

* **Mohamed S. Abdallah**, et al. *Light-weight deep learning techniques with advanced processing for real-time hand gesture recognition*.

**Sensors** **2023,** 23(1), 2; Multidisciplinary Digital Publishing Institute, <https://doi.org/10.3390/s23010002> **.**

* **Mohamed S. Abdallah**, et al. *Modeling Speech Emotion Recognition via Attention-Oriented Parallel CNN Encoders.*

**Electronics 2022**, 11(23), 4047; Multidisciplinary Digital Publishing Institute, <https://doi.org/10.3390/electronics11234047> .

* **Mohamed S. Abdallah**, et al. *Virtual Hairstyle Service Using GANs & Segmentation Mask (Hairstyle Transfer System).*

**Electronics 2022**, 11(20), 3299, Multidisciplinary Digital Publishing Institute, <https://doi.org/10.3390/electronics11203299> .

* **Mohamed S. Abdallah**, et al. *MediaPipe’s Landmarks with RNN for Dynamic Sign Language Recognition.*

**Electronics 2022**, 11(19), 3228, Multidisciplinary Digital Publishing Institute, <https://doi.org/10.3390/electronics11193228> .

* **Mohamed S. Abdallah**, et al. *Multi-Vehicle Tracking Using Heterogeneous Neural Networks for Appearance and Motion Features.*

**International Journal of Intelligent Transportation Systems Research**, Springer Nature **2022**, <https://doi.org/10.1007/s13177-022-00320-6> .

* **Mohamed S. Abdallah**, et al. *Efficient common objects localization based on deep hybrid Siamese network.*

**Journal of Intelligent & Fuzzy Systems**, IOS Press STM publishing house **2021**, <https://doi.org/10.3233/JIFS-210854> .

* **Mohamed S. Abdallah**, et al. *Zero-Shot Deep Learning for Media Mining: Person Spotting and Face Clustering in Video Big Data.*

**Electronics 2019**, 8(12), 1394; Multidisciplinary Digital Publishing Institute, <https://doi.org/10.3390/electronics8121394> .

* **Mohamed Sameer**, et al. *A Survey on Hough Transform, Theory, Techniques and Applications*.

**IJCSI** **2015 ,** International Journal of Computer Science Issues, Volume 12, Issue 1, No 2, <https://doi.org/10.48550/arXiv.1502.02160> .

* **Mohamed S. Abdallah**, Elsayed E. Hemayed. *Dynamic Hand Gesture Recognition of Arabic Sign Language using Hand Motion Trajectory Features*.

**GJCST** **2013,** Global Journal of Computer Science and Technology, Graphics & Vision, <https://globaljournals.org/GJCST_Volume13/6-Dynamic-Hand-Gesture.pdf> .

* **Refereed Conference Articles (4 Papers):**
* **Mohamed S. Abdallah**, et al. *철도 작업자를 위한 깊이 추정 및 GPS기반 위치 추적 프레임워크 A Railway Framework for Person (Worker) Localization based on Depth Estimation and GPS.*
* **Mohamed S. Abdallah**, et al. *AI기반의 사이버위협분석대응체계 AI-based cyber threat analysis and response system.*
* **Mohamed S. Abdallah**, et al. *무인체계 지상로봇 드론 등 촬영 건물 내외부 영상 시각화 3D visualization of interior and exterior images of buildings taken by unmanned systems (ground robots, drones, etc.).*

**Korea Defense Technology Society Fall Conference (kidet), Jeju, South Korea., 2024**.

<http://www.kidet.or.kr/index.php?page=view&pg=&idx=1259&hCode=BOARD&bo_idx=1&sfl=&stx=>

* **Mohamed S. Abdallah**, et al. *Driver Monitoring System: Enhancing In-Cabin Safety with AI-Powered Vision.*

**IPIU 2025, 37th Workshop of Image Processing and Image Understanding, Jeju, South Korea**.

<http://www.ipiu.or.kr/?act=info.page&pcode=sub04>

### **Conference and Technical Presentations:**

* **Feb. 5th – Feb. 7th , 2025:** 37th Workshop of Image Processing and Image Understanding, IPIU 2025, 제주 Jeju, **South Korea**.
* **Oct. 30 – Nov. 1st, 2024:** Korea Defense Technology Society Fall Conference (**kidet**), 2024, 제주 Jeju, **South Korea**. (3 Papers)
* **Oct. 27 – Nov. 02, 2019:** International Conference on Computer Vision **ICCV**, 2019. Seoul, **South Korea**.
* **18 - 29 June 2018:** 19th Training Program STP (Science and Technology Park) Training Program. INNOPOLIS Foundation, **Daejeon**, **South Korea**.
* **Jul 2016:** Brain-Inspired Model for Visual Recognition. Electronics Research Institute, Giza, Egypt.
* **May 2013:** Robust Real-time Face Detection. Dept. of Computer Engineering, Cairo University, Egypt.

### **Volunteering and Extracurricular Activities:**

**Professional Services:**

* ***Reviewer,*** Journal of Visual Languages and Computing, **Elsevier** Journals.
* ***Reviewer,*** Journal of Pattern Recognition Letter, **Elsevier** Journals.
* ***Reviewer,*** Journal of Multimedia Tools & Applications, **Springer** Journals.
* ***Reviewer,*** Journal of Pattern Analysis and Applications, **Springer** Journals.
* ***Reviewer,*** Journal of IEEE Access, **IEEE** Journals.
* ***Reviewer,*** Journal of Applied Sciences, **MDPI** Journals.
* ***Reviewer,*** Journal of Brain Sciences, **MDPI** Journals.

**Social Volunteering:**

* ***Feb 2012 - Present:*** Community Helper, Al-Hossary Center, Oct 6 City, Egypt.
* ***Sept 2000 - Present:*** Member of Resala Charity Association, Egypt; responsible for the following activities:
  + Orphan Care, Deaf and Dumb Care.
  + Organized blood donations campaigns.
  + Delivered free-charge courses in IT and Computer Science.

### **Personal Qualifications**

* Membership of Egypt **Engineers Syndicate** since **2004.**

* Actively attribute to the success of the organization by working in a challenging position whereby they can fully utilize my skills and allow me to pursue my career advancing goals.
* Ambitious, Calm, cooperative & have the team spirit.
* Having the ability to work under pressure and well aware of my responsibilities.
* Able to work in a group, teaching others, helpful and excellent time management.

**References:**

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| --- | --- |
| **Prof. Young-IM Cho (조영임)**  컴퓨터공학부  Department of Computer Engineering  Gachon University, **South Korea**.  **Cell:** +82 10-3267-4727  **Email:** [yicho@gachon.ac.kr](mailto:yicho@gachon.ac.kr) | **Stephen Kim (김수훈)**  **CEO** DeltaX (주)델타엑스  Founder, Chairman, and Managing Director of DeltaX Co., Ltd.; [www.deltax.ai](http://www.deltax.ai/)  **Cell:** +82 10-3060-6587  **Fax :** +82 070-7777-2113 **Email :**  [stephenkim@deltax.ai](mailto:stephenkim@deltax.ai) |
| **Prof. Sherine M. AbdElKader**  President of Electronics Research Institute (ERI)  **Cell**: +20 11-1771-4441 **Email:** [Sherine@eri.sci.eg](mailto:Sherine@eri.sci.eg) | **Prof. Mohsen A. Rashwan**  Faculty of Engineering, Cairo University.  Founder, Chairman, and Managing Director of the Corporate Software  House; RDI; [www.RDI-eg.com](http://www.RDI-eg.com/)  **Cell:** +20 12-2311-3476  **Fax:** +20 2383-0416 **Email:** [mrashwan@rdi-eg.ai](mailto:mrashwan@rdi-eg.ai) |
| **Prof. Heba K. Aslan**  Electronics Research Institute ERI. Head of Informatics Department.   **Cell:** +20 12-2791-9995  **Email:** [hebaaslan@yahoo.com](mailto:hebaaslan@yahoo.com) | **Prof. Elsayed E. Hemayed**  Department of Computer Engineering  Faculty of Engineering, Cairo University.  **Cell:** +20 10-6462-2506  **Cell:** +20 11-1230-6248  **Email:** [hemayed@ieee.org](mailto:hemayed@ieee.org)  [ehemayed@zewailcity.edu.eg](mailto:ehemayed@zewailcity.edu.eg) |