

## Trainer's Profile

Mr. M. Adil Khan is from Pakistan. He is an experienced software engineer with expertise in cutting-edge technologies such as Edge Intelligence, Embedded systems, and IoT. He completed his higher studies in China and has developed several innovative projects, earning prestigious awards. Significant contributions, including publications in esteemed journals, acquisition of patents, and involvement in industrial projects and training distinguish his career.

### PUBLICATIONS

#### Journal Publications

- [IoT-based Non-intrusive Automated Driver Drowsiness Monitoring Framework for Logistics and Public Transport Applications to Enhance Road Safety](#)  
M. Adil Khan, Tahir Nawaz, Umar S. Khan, Amir Hamza. IEEE Access 2023. (IF: 3.9).
- [Smart Steering Wheel: Design of IoMT-Based Non-Invasive Driver Health Monitoring System to Enhance Road Safety](#)  
M. Adil Khan, Mu Chen, Tahir Nawaz, Mohamed Sedky, Muhammad Sheikh, Ali Kashif Bashir, Sohail Hassan. IET Intelligent Transport Systems, Manuscript ID: ITS-2023-08-0300. (IF: 2.7).
- [Using Segformer for Effective Semantic Cell Segmentation for Fault Detection in Photovoltaic Arrays](#)  
Zaid Mahboob, M. Adil Khan, Ehtisham Lodhi, Tahir Nawaz, Umar S. Khan. IEEE Journal of Photovoltaics, Manuscript ID: JPV-2023-12-0454-R. (IF: 3.0). (Submitted-Under Review)
- [AIoT-based Generic Framework for Fault Diagnostics and Remote Monitoring in Photovoltaic Systems](#)  
Ehtisham Lodhi, Fei-Yue Wang, Gang Xiong, Lingjian Zhu, M. Adil Khan, Zeeshan Lodhi, Tahir Nawaz, Adil Dilawar. IET Renewable Power Generation. ID: RPG-2023-07-0489. (IF: 3.03). (Submitted-Accepted)
- [A Novel Deep Stack-Based Ensemble Learning Approach for Fault Detection and Classification in Photovoltaic Arrays](#)  
Ehtisham Lodhi, Fei-Yue Wang, Gang Xiong, Lingjian Zhu, Tariku Sinshaw Tamir, Waheed Ur Rehman, M. Adil Khan MDPI- Remote Sensing (2023) (IF: 5.35)
- [Adaptive Local Mean Decomposition and Multiscale-Fuzzy Entropy-Based Algorithms for the Detection of DC Series Arc Faults in PV Systems](#)  
Lina Wang, Ehtisham Lodhi, Pu Yang, Hongcheng Qiu, Waheed Ur Rehman, Zeeshan Lodhi, Tariku Sinshaw Tamir, M. Adil Khan. Energies 2022. (IF: 3.00)
- [New Modified Controlled Bat Algorithm for Numerical Optimization Problem](#)  
Bangyal, Waqas Haider, Abdul Hameed, Jamil Ahmad, Kashif Nisar, Muhammad Reazul Haque, Ag Asri Ag Ibrahim, Joel JPC Rodrigues, M. Adil Khan, Danda B. Rawat, and Richard Etengu. CMC-COMPUTERS MATERIALS & CONTINUA 2022. (IF: 3.78).

#### Conference Publications

- [Prototype Model of an IoT-based Digital and Smart Door Locking System with Enhanced Security](#)

**M. Adil Khan**, Kashif Nisar, Ehtisham Lodhi, Jawad Khan, Muhammad Imran Khan, Tariq Rahim Soomro.(MACS-14 2022) , IoBM, Karachi.

- **[An Android-based Portable Smart Cane for Visually Impaired People](#)**

**M. Adil Khan**, Kashif Nisar, Sana Nisar, BS Chowdhry, Ehtisham Lodhi, Jawad Khan, Muhammad Reazul Haque (AICT 2021), IEEE Azerbaijan.

- **[Dragonfly Optimization based MPPT Algorithm for Standalone PV System under Partial Shading](#)**

Ehtisham Lodhi, Pu Yang, Lina Wang, **M. Adil Khan**, Zeeshan Lodhi, Usman Javed, Qasim Salim. (ISEEDP 2021).

- **[Modelling and Experimental Characteristics of Photovoltaic Modules in Typical Days at an Actual Photovoltaic Power Station](#)**

Ehtisham Lodhi, Pu Yang, Lina Wang, Zeeshan Lodhi, **M. Adil Khan**, Sijjad Muhammad, Tariku Sinshaw Tamir. (AUTEED 2021).

### **Job Experience:**

1. Lecturer at Computer Science Department, COMSATS University Islamabad, Abbottabad Campus [01/09/2023 – present]
2. Research Associate at the Robot Design and Development Lab of the National Center of Robotics and Automation, NUST, Islamabad. (September 2022 - August 2023).
3. Research Assistant at the Robot Design and Development Lab of the National Center of Robotics and Automation, NUST, Islamabad. (February 2022 - August 2022).
4. My startup incubated at Durshal Abbottabad for 6 months, a project of Khyber Pakhtunkhwa Information Technology Board. Start-up UHOM. (April 2019- September 2019).
5. Gained one year of experience as a lead trainer and community outreach manager at Tech Valley, Abbottabad. (August 2017 - July 2018)

### **Awards:**

1. Winner of National Youth Award-Pakistan, Organized by Minhaj Youth League and Educassa International in the category of innovation and training. (2021)
2. Winner of startup competition KP CREATIVE FEST-2020 organized by Directorate of Science and Technology (DoST), KPK. (2020)
3. Winner in project presentation at Regional Science Olympiad organized by Directorate of Science and Technology (DoST), Govt of KPK. (2019)
4. 1st Runner up in DICE (USA) Mega Innovation & -Entrepreneurship Event at AUST, Abbottabad. (2019)
5. Winner of IEEE PSCSC 2015 (National Level) Poster Competition at Government College University Faisalabad. (2015)
6. Winner of video-making competition on anti-corruption, organized by the directorate of student affairs, AUST 2015

### **Professional Training:**

1. Two days of hands-on training on "*Aerial Spraying Drones*", organized by Robot Design and Development LAB, NUST EME. Oct 12 & 13, 2022

- Two days of hands-on training on "*UR-5 Collaborative Robot*", organized by Robot Design and Development LAB, NUST EME. Dec 07 & 08, 2022
- "*PCB Designing and Fabrication Training*", organized by Robot Maker LAB, NCRA. Nov 30 & Dec 01, 2022.
- 4 weeks KP youth employment program on "*Internet of Things (IoT)*", Organized by Khyber Pakhtunkhwa information technology board. Sep 1-30, 2019.
- Two months "*Android Application Development*" course at Techvalley Abbottabad. Oct-Nov, 2018.

#### **Training / Guest lecture:**

- Delivered talk on "Exploring the potential of IoT and insights into Embedded systems" at COMSATS University Islamabad, Abbottabad Campus. Oct 24, 2023
- A one-day workshop on "Embedded Systems and Internet of Things" at Riphah International University, Gulberg Campus, Islamabad. May 17, 2023
- IoT: An Emerging Trend in Technology and Deep Dive into Programming Languages at the University of Engineering and Technology, Peshawar, Abbottabad Campus. April 17, 2019

#### **Projects:**

- Digital Hand-Held Otoscope for ENT Specialist to Examine Ear Canal.
- Football Sphericity Testing Machine by Using Computer Vision.
- IoT-Based Home Automation and Surveillance System.
- Smart Stick For Visually Impaired People (Bluetooth, Android)
- IoT Based Active Cathodic Protection System for Gas pipe (IoT, Android)

#### **Design Patent - submitted/filed/granted:**

- Hand Held Digital Otoscope. (Class-03), Design No.21870-D, 02 Feb 2023 – Filed
- Steering Wheel with Biomedical Sensors. (Class-01), Design No.21869-D, 02 Feb 2023 – Filed
- Smart Cane Device for Visually Impaired People.(Class-03), Design No.21937-D, 18 Apr 2023 – Filed

#### **Membership:**

- IET Robotics Club CUI, Abbottabad
- IEEE Graduate Student Member
- IEEE Young Professionals