

Engr. Baber Khan

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Date of Birth: 17th December 1988
Nationality: Pakistani

EDUCATION:

PhD Electronic Engineering

August 2014 to date (Synopsis approved; one paper published)

International Islamic University, Islamabad

Research Topic: Visual Object Tracking

MS Electrical Engineering

(CGPA 3.01/4)

September 2011- November 2013

University of Engineering and Technology (UET) Taxila, Pakistan

Research Topic: Motion Vector Based Adjustment to Mean-shift Tracking Algorithm for Occlusion Handling.

BS Computer Engineering

(CGPA 3.78/4) Silver Medalist

August 2006- November 2010

COMSATS Institute of Information Technology Islamabad Pakistan

Final Year Project: Vision based object tracking in video signal.

PROFESSIONAL EXPERIENCE: (9 Years)

Lecturer (6 Years and 9 Months)

February 2014 to date

Department of Electrical Engineering,
International Islamic University, Islamabad, Pakistan

Responsibilities:

Theory Courses Taught:

- ✓ Digital Image Processing
- ✓ Fundamentals of Programming
- ✓ Digital Signal Processing
- ✓ Control Systems
- ✓ Basic Electric Circuits
- ✓ Linear Circuit Analysis
- ✓ Electrical Machines
- ✓ Computer Organization and Architecture

Lab Courses Taught:

- ✓ Digital Image Processing
- ✓ Digital System Design
- ✓ Digital Signal Processing
- ✓ Signals and Systems

Programming Languages Taught:

- ✓ C++
- ✓ Assembly Language
- ✓ Matlab Coding

Learning Tools:

Conduct Labs and Trained Students
on following Tools:

- ✓ Xilinx ISE
- ✓ Matlab
- ✓ Pspice
- ✓ Microwind
- ✓ FPGA Boards (Spartan 3, Spartan 3E, Vertex II, Vertex II-pro)

Lab Engineer (1 Year)

March 2013 to February 2014

Department of Electrical Engineering,

COMSATS Institute of Information Technology Abbottabad Campus.

Responsibilities:

- Lab Courses Taught:
- ✓ Signals and Systems
 - ✓ Fundamentals of Programming
 - ✓ Digital System Design
 - ✓ Very large-Scale Integration (VLSI)

Research Assistant (18 months)

August 2011 to February 2013

Department of Electrical Engineering

University of Engineering and Technology (UET) Taxila, Pakistan

Responsibilities:

- ✓ Research in the field of computer vision.
- Lab Courses Taught:
- ✓ Taught Digital Logic Design (DLD) Lab course.
 - ✓ Taught Signal and Systems Lab course.
 - ✓ Fundamental of programming Lab course.
 - ✓ Preparing and conducting Lab assignments and Lab quizzes.

Part Time Teaching (6 Month)

February 2011 to July 2011

Department of Electrical Engineering,

COMWAVE Institute of Information Technology Abbottabad Campus.

Responsibilities:

- Courses Taught:
- ✓ Digital System Design
 - ✓ Control Systems

Part Time Teaching (1 Year)

August 2015 to August 2016

Department of Telecom Engineering

National University of Science and Technology (NUST), Islamabad

Responsibilities:

- Courses taught:
- ✓ Control Systems

RESEARCH PUBLICATIONS:

1. **Baber Khan**, Ahmad Ali, Abdul Jalil, Khizer Mehmood, Maria Murad, Hamdan Awan **“AFAM-PEC: Adaptive Failure Avoidance Tracking Mechanism Using Prediction-Estimation Collaboration”** June 2020, IEEE Access PP(99):1-1, DOI: 10.1109/ACCESS.2020.3004731.
2. Maria Murad, Muhammad Bilal, Abdul Jalil, Ahmad Ali, Khizer Mehmood, **Baber Khan** **“Efficient Reconstruction Technique for Multi-Slice CS-MRI Using Novel Interpolation and 2D Sampling Scheme”** June 2020, IEEE Access PP(99):1-1, DOI: 10.1109/ACCESS.2020.3004731.
3. A.U. Rehman, **B. Khan**, F.Khan 2016. **“Analysis of Adaptive Filter and ICA for Noise Cancellation from a Video Frame”**, IEEE 1st International Conference on Intelligent Systems Engineering, Islamabad, Pakistan.
4. N. Tajik, A.U. Rehman, W. Khan, **B. Khan** 2016. **“Texture feature selection using GA for human brain Classification”**, Springer Lecture Notes in Computer Science (LNCS), ICSI Indonesia.

5. F. Khan, A.U. Rehman, M. Arif, **B. Khan** 2016. “**A Survey of Communication Technologies for Smart Grid Connectivity**”, IEEE International conference on Computing, Electronic and Electrical Engineering (ICE Cube), BUITEMS, Quetta.
6. **Baber Khan**, Ahmad Khalil Khan, Gulistan Raja, Muhammad Haroon Yousaf “**Implementation of Modified Mean-shift Tracking Algorithm for Occlusion Handling**”, Life sciences Journal (ISSN 1097-8135)

FINAL YEAR PROJECTS SUPERVISED:

List of selected FYPs supervised during my stay at International Islamic University:

- ✓ Digital Gym Instructor (**Funded by Ignite National Technology Fund, Pakistan**)
- ✓ Hybrid Heater
- ✓ Smart Green House using IoT (**Funded by Ignite National Technology Fund, Pakistan**)
- ✓ Kernel Based Object tracking using mean shift Algorithm
- ✓ Autonomous smart baking system, Roti Maker
- ✓ Inverter controlled single phase induction motor using renewable energy source
- ✓ Automatic accident detection and ambulance rescue with intelligent traffic light system
- ✓ Unmanned Ground Vehicle
- ✓ Sign Language Translation using flex sensors
- ✓ Geo orbital wheel for cycle

AWARDS & ACHIEVMENTS:

- ✓ Awarded with Merit based Scholarship for PhD Program at IIUI
- ✓ Awarded with Fully funded Merit based Scholarship for MS Electrical Engineering at University of Engineering and Technology, Taxila, Pakistan
- ✓ Awarded with **Institute SILVER medal** (Bs. Computer Engineering) at COMSATS.
- ✓ Awarded with **Campus SILVER medal** (Bs. Computer Engineering) at COMSATS.
- ✓ Obtained **Second position** in class throughout eight semesters (BS Computer Engineering)
- ✓ Awarded with merit-based Laptop by the government of Pakistan

CURRENT RESEARCH INTERESTS:

- ✓ Computer Vision
- ✓ Real Time Visual Object Tracking

REFERENCES:

Atiq ur Rehman (Post Doctorate Fellow, HBKU, Qatar)
Email: arehman@hbku.edu.qa