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## **Dr. Usama Ijaz Bajwa**

COMSATS University Islamabad, Lahore Campus, Pakistan

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

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### **EDUCATION**

**2008 to April 2013: PhD from CASE Islamabad / UET Taxila**

**2004 to 2006: MS from CASE Islamabad / UET Taxila**

**1999 to 2001: MSc from Hamdard University, Karachi**

**1996 to 1998: BSc from Punjab University, Lahore**

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### **EXPERIENCE**

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#### **INDUSTRIAL EXPERIENCE**

**June 2008 to October 2010:**

**Team lead in the project Automatic Personal Identification Biometrics System (APIBS) for Large Scale Applications running under Mohammad Ali Jinnah University, Islamabad, Pakistan, sponsored by National ICT R&D Fund, Ministry of Information Technology, Pakistan** <http://www.ictrdf.org.pk/fp-apibs.htm>.

Responsibilities and Achievements:

- Project Team development, training, and management.
- Problem Solving and collaboration

**2008 to 2010:**

**Research Student & Moderator of Vision and Pattern Recognition Systems (VisPRS) Research group at Muhammad Ali Jinnah University, Islamabad** <http://www.visprs.com>

Responsibilities and Achievements:

- Managing the VisPRS research group as a moderator.
- Carrying out research in the field of face recognition.

**May 2007 to November 2007:**

**Visiting Researcher at Medical Imaging Research Unit (<http://imaging.research.southwales.ac.uk>) at University of South Wales, UK (Formerly University of Glamorgan, UK) <http://www.southwales.ac.uk/>**

Responsibilities and Achievements:

- Development of Infrared Atlas of Normals, A database of normal human skin temperature distribution. <http://imaging.research.southwales.ac.uk/projects/ir/atlas/>

**2004 to 2007:**

**Research Student & Moderator of Machine Vision and Pattern Analysis (MVPA) Research group at Centre for Advanced Studies in Engineering (CASE), Islamabad** <http://www.case.edu.pk/>

Responsibilities and Achievements:

- Carrying out research in the field of finger print verification for both complete and partial finger prints.
- Implementation of finger print recognition algorithms in MATLAB.
- Literature review of Image Super resolution techniques, Image and video epitomes.
- Worked on shadow removal from images.
- Currently working on multi spectral and multi dimensional face recognition.

**Spring 2003 to Fall 2004:**

**Assistant System Analyst (CITC), COMSATS Institute of Information Technology (CIIT), Abbottabad.** <http://www.ciit-atd.edu.pk/>

Responsibilities and Achievements:

- Development Projects: COMSATS online testing system in CITC.

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## TEACHING / RESEARCH EXPERIENCE

**April 2015 to date**

**Tenured Associate Professor (Department of Computer Science) (May 2019 – To Date)**

**Assistant Professor (Department of Computer Science) (July 2011-April 2019) / Associate Head of the Department (Aug 2017-Jan 2021), COMSATS University Islamabad (CUI), Lahore Campus.**  
<http://www.cuilahore.edu.pk>

- Teaching courses (Digital Image Processing, Operating System Concepts, and Fundamentals of Computer Programming) at under graduate level and Advanced/Special Topics in Image Processing, Advanced Topics in Computer Vision at graduate level.
- Head, Machine Perception & Visual Intelligence Research Group <https://sites.google.com/view/mpvir>
- Supervising PhD, MS and Undergrad Students.
- Being the Associate Head of the Department, managing day to day departmental activities.
- Program Chair (International Conference on Frontiers of Information Technology, 2014-Till Date) [www.fit.edu.pk](http://www.fit.edu.pk)
- Chairperson COMSATS International Model United Nations (CIMUN 2019)
- Faculty Advisor, Character Building Society (CBS), Formed on the request of National Accountability Bureau (NAB).
- Convener (Local Industry Liaison Committee, B2B Meetings Committee), Pak China Business Forum – Industrial Expo, 2019. [www.pcbf.org.pk](http://www.pcbf.org.pk)
- Convener (Local Industry Liaison Committee, B2B Meetings Committee), Pak China Business Forum – Industrial Expo, 2018. [www.pcbf.org.pk](http://www.pcbf.org.pk)
- Convener (Local Industry Liaison Committee, Sponsorship Committee, B2B Meetings Committee), Pak China Business Forum, 2017. [www.pcbf.org.pk](http://www.pcbf.org.pk)
- COMSATS Institute of Information Technology Lahore, focal person at “Standing Committee on Technical Education” and “Standing Committee on Science, Technology & Technology Promotion” in Lahore Chamber of Commerce & Industry (2016, 2017)
- Convener (Local Industry Liaison Committee, Sponsorship Committee, B2B Meetings Committee), Pak China Business Forum, 2016. [www.pcbf.org.pk](http://www.pcbf.org.pk)

**October 2010 to March 2015**

**Assistant Professor (Department of Computer Science), COMSATS Institute of Information Technology (CIIT), Abbottabad.** <http://www.ciit-atd.edu.pk/>

- Program Chair (International Conference on Frontiers of Information Technology, 2014) [www.fit.edu.pk](http://www.fit.edu.pk)
- Head, Information Security & Image Processing (ISIP) Research Group
- Coordinator Graduate Programs (MS & PhD)
- Program Head (BSCS Program) (till August 2013)
- Head, under graduate student project evaluation committee (till August 2013)
- Along with teaching, supervision of MS students and under graduate final year projects. Taught courses: Operating System Concepts, Digital Image Processing & Advanced Topics in Digital Image Processing
- Convener Departmental Graduate Admission Committee, Departmental Graduate Alumni Committee, Departmental Doctoral Comprehensive Examination Committee
- Member Departmental Academic Review Committee, Campus Academic Review Committee, Departmental Faculty Hiring Committee, Departmental Advisory Committee & Campus Graduate Program Committee.

**Fall 2010:**

- Taught a course “Digital Image Processing” at NUST (EME college, Mechatronics department) (MS program)

**Fall 2009:**

- Taught a course “Digital Image Processing” at NUST (EME college, Mechatronics department) (MS program)

**Spring 2003 to Fall 2004:**

**Lecturer (Faculty of Computer Science)/ Assistant System Analyst (CITC), COMSATS Institute of Information Technology (CIIT), Abbottabad.** <http://www.ciit-atd.edu.pk/>

- Taught courses: Introduction to Algorithms, Operating System Concepts & Software Engineering.

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- Organized & managed participation of Computer Science department students in various extracurricular events.

#### Spring 2005 to Spring 2008:

- Taught a course “Telecom policies and regulations” at Sir Syed School of information technology (SS-CARE).
- Teacher Assistantships in the courses Digital Image processing, Computer Vision and Pattern Recognition taught at Muhammad Ali Jinnah University.
- Teacher Assistantships in the courses Computer Vision, Digital Communication, Broadband Switching Systems, Software Engineering & Wireless Communication taught at CASE.

#### FUNDING SECURED

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- **Funding of PKR 43.284 Million** for establishment of Video Analytics Lab under the National Center in Big Data and Cloud Computing (NCBC) approved by Planning Commission, Govt. of Pakistan (CO PI) 2018.
- **Funding of PKR 6 Million** for Research Project No 15604, entitled “A Multi-Biometric Access Control System (MBACS) for Highly Secured Environment” awarded under the National Research Program for Universities (NRPU) approved by Higher Education Commission (HEC) of Pakistan.
- Funding of FYP projects under the NGIRI program of IGNITE (Formerly National ICT R&D Fund) 2020.
- Funding of FYP project under the NGIRI program of IGNITE (Formerly National ICT R&D Fund) 2018.

#### RESEARCH AREAS EXPLORED

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- Face Recognition
- Facial Emotion Recognition
- Fingerprint Recognition
- Medical Image Processing
- Natural Language Processing
- Image and Video Epitomes
- IRIS Recognition

#### COURSES/WORKSHOPS/CONFERENCES

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- Delivered a talk on Brain Tumour Image Segmentation at 1st International Conference on Machine Perception and Artificial Intelligence (ICMPAI-2022), Islamia University Bahawalpur, 17<sup>th</sup> June, 2022
- Program Chair, 19<sup>th</sup> International Conference on Frontiers of Information Technology (FIT 2022)
- Program Chair, 18<sup>th</sup> International Conference on Frontiers of Information Technology (FIT 2021)
- Delivered a talk on Digital Image Processing at IEEE Computer Society Chapter Abbottabad, 27<sup>th</sup> December 2020, COMSATS University Islamabad, Abbottabad Campus.
- Delivered a talk on Image processing applications at Microsoft Learn Student Ambassador program, 9<sup>th</sup> October 2020, COMSATS University Islamabad, Lahore Campus.
- Delivered a talk on “Automated Anomaly Recognition using Deep Net Architecture”, 31<sup>st</sup> August 2020 at International Symposium on Multimodal Sensing and Information Processing, Xidian University, China
- Program Chair, 17<sup>th</sup> International Conference on Frontiers of Information Technology (FIT 2019)
- Delivered a talk, “Plant Disease Detection using Multispectral Images: A Beginners Perspective” at National Conference on Analysis of Multispectral Radiometer and Satellite Data for Better Monitoring and Management of Crops and Livestock Production, 30<sup>th</sup> July 2019, Virtual University of Pakistan, Lahore, Pakistan
- Program Chair, 16<sup>th</sup> International Conference on Frontiers of Information Technology (FIT 2018)
- Program Chair, 15<sup>th</sup> International Conference on Frontiers of Information Technology (FIT 2017)
- Delivered a talk, “Basics of Event Management” at IEEE mini POCO 2017, Lahore, Pakistan
- Program Chair, 14<sup>th</sup> International Conference on Frontiers of Information Technology (FIT 2016)
- Program Chair, 13<sup>th</sup> International Conference on Frontiers of Information Technology (FIT 2015)
- Program Committee Member, Special Session on Formal Modelling for Machine Learning Techniques, The 14<sup>th</sup> IEEE International Conference on Machine Learning and Applications (IEEE ICMLA’15)
- Program Chair, 12<sup>th</sup> International Conference on Frontiers of Information Technology (FIT 2014)
- Delivered a lecture on “Automated Fingerprint Identification System” in Capacity Building Course on Forensic Science & Scientific Aids, organized by Research & Training Cell, National Accountability Bureau (NAB), Islamabad, Pakistan, July 10, 2014
- Member technical committee for International Conference on Frontiers of Information Technology (FIT) 2009, 2010, 2011, 2012 and 2013
- Organized the International Conference on Frontiers of Information Technology (FIT), Islamabad, Pakistan, 2010,

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2011 and 2012

- Organized the IEEE International Conference on Emerging Technologies (ICET), Center for Advanced Studies in Engineering (CASE), Islamabad, Pakistan, September 17-18, 2005
- Attended the 8th Course on the Theory and Practice of Infra-Red Thermal Imaging in Medicine at University of Glamorgan, UK.
- Attended and gave a talk on multi model and multi-dimensional face recognition at Frontiers of Information Technology, FIT 2008, 18-19 December 2008, Pearl Continental Hotel, Bhurban, Pakistan

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## PROJECTS/THESIS SUPERVISED

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### PhD THESIS

- Ghulam Gilanie, “Automated Detection and Classification of Brain Tumor from MRI Images using Machine Learning Methods”, COMSATS University Islamabad, Lahore Campus, 2019. (Completed)
- Mubbashar Saddique, “Robust Video Forgery Detection and Localization using Artificial Intelligence Techniques”, COMSATS University Islamabad, Lahore Campus, 2021. (Co Supervisor) (Completed)
- Khurram Ejaz, “Image Segmentation Method for Brain Tumor Detection using MRI Imaging”, Universiti Teknologi Malaysia, 2021. (Co Supervisor) (Completed)
- Rafiqat Alam Khan, “Smoke and Fire Detection from Surveillance Videos”, COMSATS University Islamabad, Lahore Campus. (In Progress)
- Gulshan Saleem, “An End-to-End System for Anomaly Analysis in Low-Quality Surveillance Videos”, COMSATS University Islamabad, Lahore Campus. (In Progress)
- Yasar Mehmood, “A Framework for the Diagnosis and Prognosis of Brain Tumor Using Deep Learning”, COMSATS University Islamabad, Lahore Campus. (In Progress)

### MS THESIS

- Aasma Aslam, “Automated Facial Emotion Recognition”, COMSATS Institute of Information Technology, Abbottabad. (Completed)
- Salahuddin Ayubi, “Super-Resolution Based Image Enhancement of Biomedical Images”, COMSATS Institute of Information Technology, Abbottabad. (Completed)
- Rakhshanda Yousaf, “Reconstruction of Scene Opposite to the Subjects in an Image Using Eye Reflections”, COMSATS Institute of Information Technology, Abbottabad. (Completed)
- Miraj Asghar, “Fully Unsupervised Word Segmentation for Morphologically Rich Languages”, COMSATS Institute of Information Technology, Abbottabad. (Co Supervisor) (Completed)
- Sofia Naureen Khan, “Digital Watermarking Scheme in High Efficiency Video Coding (HEVC)”, COMSATS Institute of Information Technology, Abbottabad. (Completed)
- Waqas Ahmed, “Reduced Complexity and Optimized Face Recognition Approach Based on Facial Symmetry”, COMSATS Institute of Information Technology, Abbottabad. (Completed)
- Abdullah Ali Shah, “A CADE System for Fast and Accurate Malignant Lung Nodule Detection”, COMSATS Institute of Information Technology, Abbottabad. (Completed)
- Shahzada Gulfam, “Face Recognition from Real Time Surveillance Videos”, COMSATS Institute of Information Technology, Abbottabad. (Completed)
- Syed Husnain Bukhari, “Exploring Semantic Tagger, BableNet and WordNet for Detecting Different Types of Paraphrased Plagiarism”, COMSATS Institute of Information Technology, Lahore. (Completed)
- Ahmad Usama, “Automated Detection of Early Pulmonary Nodule in Computed Tomography Images”, COMSATS University Islamabad, Lahore Campus. (Completed)
- Javaid Iqbal, “Automatic Brain Tumor Segmentation in Magnetic Resonance Images through Region Based Approach”, COMSATS University Islamabad, Lahore Campus. (Completed)
- Ramna Maqsood, “Anomaly Detection in surveillance videos for Real Time Monitoring Using 3D Deep Neural Networks”, COMSATS University Islamabad, Lahore Campus. (Completed)
- Maimoona Rafiq, “Reconstruction of scene using corneal reflection”, COMSATS University Islamabad, Lahore Campus. (Completed)
- Hamad-ud-din Ahmed, “Deception Detection using Facial Action Coding System in Videos using Deep Networks”, COMSATS University Islamabad, Lahore Campus. (Completed)
- Imran Zaman, “A Robust Deep Network based Multi Camera Multi Object Tracking”, COMSATS University Islamabad, Lahore Campus. (Completed)
- Sareya Qayyum, “Rotation Invariant Disguised Facial Recognition using Deep Networks”, COMSATS University Islamabad, Lahore Campus. (Completed)
- Ali Hussain, “Detection of Fire and Smoke from Video Sequences”, COMSATS University Islamabad, Lahore Campus. (Completed)
- Muhammad Salman Ghauri, “Enhancing Crime Classification in Surveillance Videos for Real Time Monitoring”,

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- COMSATS University Islamabad, Lahore Campus. (Completed)
  - Fatima Zulfiqar, “Individual Reidentification in Multi Camera Multi Object Environment”, COMSATS University Islamabad, Lahore Campus. (Completed)
  - Mughees Ahmad, “COVID 19 Detection from Multimodal Medical Images”, COMSATS University Islamabad, Lahore Campus. (Completed)
  - Rehan Raza, “Brain Tumor Segmentation using Self Learning”, COMSATS University Islamabad, Lahore Campus. (Completed)
  - Muhammad Mubeen, “Automatic Weed detection in Cotton and Tomato Crops of Pakistan”, COMSATS University Islamabad, Lahore Campus. (In Progress)
  - Hafiz Abdul Rehman, “A coverless text hiding based framework for encryption and decryption of text by generating anime characters using GAN”, COMSATS University Islamabad, Lahore Campus. (In Progress)
  - Samia Hussain, “Deception Detection using Micro Expressions of Face through Features Fusion”, COMSATS University Islamabad, Lahore Campus. (In Progress)

## UNDER GRADUATE PROJECTS

- Zain-Ul-Abideen, Sadia Waheed Awan, “Speech analysis and recognition using signal processing techniques”, COMSATS Institute of Information Technology, Abbottabad. (Completed)
- Qurat-ul-ain Ali, Memoona Umar, “Touchless Fingerprint Recognition Using Mobile Camera”, COMSATS Institute of Information Technology, Abbottabad. (Completed)
- Fazal Ullah, Waleed Rasheed, “Emotional Computing”, COMSATS Institute of Information Technology, Abbottabad (Completed)
- Maria Rathore, Sahibzadi Annum Shaheen, “Emotion aware Intelligent Tutor for Kids”, COMSATS Institute of Information Technology, Abbottabad (Completed)
- Abdul Hadi Khan, Muhammad Rashid, “Interactive Tourist Guide for Pakistan, An Android Based Mobile Application”, COMSATS Institute of Information Technology, Abbottabad (Completed)
- Bilal Munsif, Muhammad Siddique, “Traffic Expert for SQUID Server”, COMSATS Institute of Information Technology, Abbottabad (Completed)
- Danyal Tajik, Barrera Nazir, “Pilgrim Friend”, COMSATS Institute of Information Technology, Abbottabad (Completed)
- Sardar Alam, Hassan Khan, “Skin Disease Classification”, COMSATS Institute of Information Technology, Abbottabad (Completed)
- Rameez Ahmed, Waqas Farman, “Gesture Based Image Processing Assistant for Surgeons”, COMSATS Institute of Information Technology, Abbottabad (Completed)
- Usman Iqbal, Usman Afzal, “ConnectMe”, COMSATS Institute of Information Technology, Abbottabad (Completed)
- Safi Ullah, Bilal Ameer, Rehan Latif, “Automated Data Organizer”, COMSATS Institute of Information Technology, Lahore (Completed)
- Daud Riaz, Moaz Mahmood Rana, Khurram Ilyas, “Conference Management System”, COMSATS Institute of Information Technology, Lahore (Completed)
- Wasim Sajjad, Samaid Saeed, Waqas Ahmad, “Forgery Resistant Digital Document Creator”, COMSATS Institute of Information Technology, Lahore (Completed) (**Shortlisted for ERUPT 2016**)
- Sarmad Saleem, Meena Liaquat, “EMODET”, COMSATS Institute of Information Technology, Lahore (Completed) (**Shortlisted for FIT 2016**) (**Shortlisted for ERUPT 2016**)
- Muhammad Umair, Haseeb Ahmed, Syed Ali Murtaza, “Multi Spectral Face Recognition”, COMSATS Institute of Information Technology, Lahore (Completed) (**First Position Spring 2017**) (**Conference Paper Published**)
- Muhammad Umair Assad, Muhammad Talha Azhar, “Pi Spy”, COMSATS Institute of Information Technology, Lahore (Completed)
- Muhammad Abdullah Nazir, Sidra Hareem, Ummara Nawaz, “Visionary Vision for Blinds”, COMSATS Institute of Information Technology, Lahore (Completed) (**Shortlisted for Visio Spark 2016**) (**Shortlisted for FIT 2017**)
- Muhammad Bilal, Safi Ullah Mehboob, Ahmed Sherjeel Kardar, “My Celebrity Match”, COMSATS Institute of Information Technology, Lahore (Completed)
- Muhammad Arslan, Sundas Saif, “CAD Application For Brain Tumor Detection Using Image Segmentation”, COMSATS Institute of Information Technology, Lahore (Completed)
- Shahrukh Tahir, Absar Ahmed Mujaddidi, Hafiz Muhammad Waqas, “Digital Assistant for Visually Impaired People”, COMSATS Institute of Information Technology, Lahore (Completed) (**Shortlisted for FIT 2017**)
- Talha Fayyaz, Ahmed Ajmal, Arslan Ahmed, “Go Rescue”, COMSATS Institute of Information Technology, Lahore (Completed) (**Shortlisted for BITA 2017**)
- Salman Danish, Hadique Akhzar, “Short It”, COMSATS Institute of Information Technology, Lahore (Completed)
- Haseeb Ali, Faiz ul Bari, Ansab bin Mehmood, “Wheat Guard”, COMSATS University Islamabad, Lahore Campus (Completed) (**Distinguished FYP Project Fall 2018**) (**Incubated in Plan9’s “Launchpad 13 Challenge”**) (**Incubated in Plan X as Agriasan**)

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- Moeed Khalid, Ali Raza, “Semantic Labelling of HSR Images”, COMSATS University Islamabad, Lahore Campus (Completed) (**First Position FALL 2018**) (**Distinguished FYP Project Fall 2018**) (**funded by National Grassroots ICT Research Initiative (2017-18)**)
  - Maham Nasir, Abeera Alvi, Amna Hashmat, “Derma Diagnoser”, COMSATS University Islamabad, Lahore Campus (Completed)
  - Bushra Ishfaq, Suman Khalid, “Breast Cancer detection using image processing”, COMSATS University Islamabad, Lahore Campus (Completed)
  - Nadir Latif, Mujtaba Mushtaq, Shahzada Shah Hussain, “EyeSpy”, COMSATS University Islamabad, Lahore Campus (Completed) (**First Position Spring 2019**)
  - Daneyal Mushtaq, Muhammad Akbar, “Warriors-The Legends of Time”, COMSATS University Islamabad, Lahore Campus (Completed) (**Third Position Spring 2019**)
  - Ata Ullah Butt, Hasham Alam, Rija Tariq Lodhi, “Pakistan’s Hall of Fame”, COMSATS University Islamabad, Lahore Campus (Completed) (**Third Position Fall 2019**) (**Winner/First Position, All Pakistan DICE Competition 2020**)
  - Hamza Tanveer, Laiba Ikram, “Pothole Detection using an Android Application”, COMSATS University Islamabad, Lahore Campus (Completed) (**First Position Fall 2019**)
  - Haris Khan, Umer Riaz, Zaid Ahmad, “Hub ZUH”, COMSATS University Islamabad, Lahore Campus (Completed) (**Winner, Web Development Category, Visio Spark 2019**)
  - Muhammad Maroof, Abdul Wahab, Hassan Shafiq, “Gideon”, COMSATS University Islamabad, Lahore Campus (Completed) (**First Position Spring 2020**)
  - Ramsha Rasheed, Bilal Ahmed, Aisha, “Charades”, COMSATS University Islamabad, Lahore Campus (Completed)
  - Nayab Amir, Noor e Eman, “Game for Dyslexics”, COMSATS University Islamabad, Lahore Campus (Completed)
  - Waqas Ahmed, Hamza Sadiq, Ali Hassan, “AQI Predictor”, COMSATS University Islamabad, Lahore Campus (Completed) (**Second Position Spring 2020**)
  - Ifrah Tehleel, Nauman Akram, Jan Muhammad, “Surveilia”, COMSATS University Islamabad, Lahore Campus (Completed) (**funded by National Grassroots ICT Research Initiative (2020-21)**) (**Third Position Fall 2020**)
  - Faran Ayyaz, Tehreem Anjum, Faryal Khalid, “Live Bus”, COMSATS University Islamabad, Lahore Campus (Completed) (**funded by National Grassroots ICT Research Initiative (2020-21)**)
  - Hamza Latif, Hassan Sharjeel, “Road Pulse”, COMSATS University Islamabad, Lahore Campus (Completed) (**Third Position Fall 2020**)
  - Zenia Kiran, Fareeha Liaqat, “TalkSee”, COMSATS University Islamabad, Lahore Campus (Completed)
  - Burhan Sabir, Muhammad Barakullah, Muhammad Saim, “Raven”, COMSATS University Islamabad, Lahore Campus (Completed)
  - Abdul Wasay, Muhammad Abidullah, Nida Tahir, “Panoptes”, COMSATS University Islamabad, Lahore Campus (Completed) (**Third Position Fall 2021**)
  - Nauman Umer, Ameer Hamza Naveed, “Rashcam”, COMSATS University Islamabad, Lahore Campus (In Progress)

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## PUBLICATIONS

### JOURNAL PUBLICATIONS: IF : 72.536

- Rehan Raza, **Usama Ijaz Bajwa\***, Yasar Mehmood, Muhammad Waqas Anwar, Muhammad Hassan Jamal (2022), " dResU-Net: 3D Deep Residual U-Net based Brain Tumor Segmentation from Multimodal MRI", Biomedical Signal Processing and Control, (Accepted) (IF = 3.88)
- Muhammad Javaid Iqbal, **Usama Ijaz Bajwa\***, Ghulam Gilanie, Muhammad Aksam Iftikhar, Muhammad Waqas Anwar (2022), "Automatic Brain Tumor Segmentation from Magnetic Resonance Images using Superpixel-Based Approach", Multimedia Tools and Applications, (Accepted) (IF = 2.757)
- Waqas Ahmed, **Usama Ijaz Bajwa**, Muhammad Sajid, Muhammad Waqas Anwar (2022), “Reduced Complexity and Optimized Face Recognition Approach based on Facial Symmetry”, Journal of Real-Time Image Processing, (Accepted) (IF = 2.358)
- Naheed Akhtar, Mubbashar Saddique, Khurshid Asghar, **Usama Ijaz Bajwa**, Muhammad Hussain, Zulfiqar Habib (2022), “Digital Video Tampering Detection and Localization: Review, Representations, Challenges and Algorithm”, Mathematics, Volume 10, Issue 2, pp. 168 (IF = 2.258 )
- Romila Aziz, Muhammad Waqas Anwar, Muhammad Hassan Jamal, **Usama Ijaz Bajwa** (2021), “A Hybrid Model for Spelling Error Detection and Correction for Urdu Language”, Neural Computing and Applications, Volume 33, pp. 14707-14721 (IF = 4.774)
- Haseeb Younis, Muhammad Waqas Anwar, Muhammad Usman Ghani, Aisha Sikandar, **Usama Ijaz Bajwa**

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- (2021), "A New Sequential Forward Feature Selection (SFFS) Algorithm for Mining Best Topological and Biological Features to Predict Protein Complexes from Protein Protein Interaction Networks (PPINs)", *Interdisciplinary Sciences: Computational Life Sciences*, Volume 13, Issue 3, pp. 371-388 (IF = 1.512)
- Ghulam Gilanie, **Usama Ijaz Bajwa\***, Mustansar Waraich, Mutyyba Asghar, Rehana Kousar, Adnan Kashif, Rabab Aslam, Muhammad Qasim, Hamza Rafique (2021), "Coronavirus (COVID-19) Detection from Chest Radiology Images using Convolutional Neural Networks", *Biomedical Signal Processing and Control*, Volume 66, pp. 102490 (IF = 3.137)
  - Ghulam Gilanie, Nimra Nasir, **Usama Ijaz Bajwa**, Hafeez Ullah (2021), "RiceNet: Convolutional Neural Networks Based Model to Classify Pakistani Grown Rice Seeds Types", *Multimedia Systems*, Volume 27, pp. 867-875 (IF = 1.935)
  - Ramna Maqsood, **Usama Ijaz Bajwa\***, Gulshan Saleem, Rana Hammad Raza, Muhammad Waqas Anwar (2021), "Anomaly recognition from surveillance videos using 3D convolution neural network", *Multimedia Tools and Applications*, Vol. 80, Issue: 12, pp. 18693-18716 (IF = 2.313) 2.757
  - Maimoona Rafiq, **Usama Ijaz Bajwa\***, Ghulam Gilanie, Muhammad Waqas Anwar (2021), "Reconstruction of Scene Using Corneal Reflection", *Multimedia Tools and Applications*, Vol. 80, Issue: 14, pp. 21363-21379 (IF = 2.313) 2.757
  - Khurram Ejaz, Mohd Shafry Mohd Rahim, **Usama Ijaz Bajwa**, Huma Chaudhry, Amjad Rehman, Farhan Ejaz (2021), "Hybrid Segmentation Method With Confidence Region Detection For Tumor Identification", *IEEE Access*, Vol. 9, pp. 35256-35278 (IF = 3.745) 3.367
  - Ghulam Gilanie, **Usama Ijaz Bajwa\***, Mustansar Mahmood Waraich, Muhammad Waqas Anwar (2020), "Risk-free WHO grading of Astrocytoma using Convolutional Neural Networks from MRI Images", *Multimedia Tools and Applications*, Vol. 80, Issue: 3, pp. 4295-4306 (IF = 2.313)
  - Mubbashar Saddique, Khurshid Asghar, **Usama Ijaz Bajwa**, Muhammad Hussain, Hatim A. Aboalsamh, Zulfiqar Habib (2020), "Classification of Authentic and Tampered Video Using Motion Residual and Parasitic Layers", *IEEE Access*, Vol: 8, Issue: 1, pp. 56782-56797, (IF = 4.098)
  - **U I Bajwa\***, S Alam, N Haq, N I Ratyal, M W Anwar (2020), "Skin Disease Classification using Neural Network", *Current Medical Imaging*, Volume 16, Issue 6, 711 - 719, 2020 (IF = 0.533)
  - Mubbashar Saddique, Khurshid Asghar, **Usama Ijaz Bajwa**, Muhammad Hussain, Zulfiqar Habib (2019), "Spatial Video Forgery Detection and Localization using Texture Analysis of Consecutive Frames", *Advances in Electrical and Computer Engineering*, Vol: 19, Issue: 03, pp. 97-108, (IF = 0.65)
  - Ghulam Gilanie, **Usama Ijaz Bajwa\***, Mustansar Mahmood Waraich, Zulfiqar Habib (2019), "Automated and Reliable Brain Radiology with Texture Analysis of MRI and Cross dataset Validation", *International Journal of Imaging Systems and Technology*, Volume 29, Issue 4, pp. 531-538 (IF = 1.423)
  - Ghulam Gilanie, **Usama Ijaz Bajwa\***, Mustansar Mahmood Waraich, Zulfiqar Habib (2019), "Computer Aided Diagnosis of Brain Abnormalities Using Texture Analysis of MRI Images", *International Journal of Imaging Systems and Technology*, Volume 29, Issue 3, pp. 260-271 (IF = 1.423)
  - N Khan, W Anwar, **U I Bajwa**, F Ahmad (2019), "Statistical Machine Translation of Indian Languages: A Survey", *Neural Computing and Applications*, Volume 31, Issue 7, pp. 2455-2467 (IF = 4.664)
  - N I Ratyal, I A Taj, **U I Bajwa**, M Sajid (2018), "Pose and Expression Invariant Alignment based Multi-View 3D Face Recognition", *KSII Transactions on Internet and Information Systems*, Volume 12, No.10, pp. 4903-4929 (IF = 0.452)
  - M Sajid, I A Taj, **U I Bajwa\***, N I Ratyal (2018), "Facial Asymmetry-Based Age Group Estimation: Role in Recognizing Age-Separated Face Images", *Journal of Forensic Sciences*, Volume 63, No.6, pp. 1727-1749 (IF= 1.127)
  - A. Sikandar, W. Anwar, **U. I. Bajwa**, X. Wang, M. Sikandar, L. Yao, Z. L. Jiang, Z. Chunkai (2018), "Decision Tree Based Approaches for Detecting Protein Complex in Protein Protein Interaction Network (PPI) via Link and Sequence Analysis", *IEEE Access*, 6(1), 2018, pp.22108-22120 (IF= 3.244)
  - A Hannan, A E Bajwa, S Riaz, U Arshad, S Saleem, **U I Bajwa** (2018), "In vitro Salmonella Typhi Biofilm Formation on Gallstones and its Disruption by Manuka Honey", *Pakistan Journal of Pharmaceutical Sciences* 31(1), 2018, pp.129-135 (IF= 0.682)
  - **U I Bajwa\***, A A Shah, M W Anwar, G Gilanie, A E Bajwa (2018), "Computer-Aided Detection (CADe) System for Detection of Malignant Lung Nodules in CT Slices – A key for Early Lung Cancer Detection ", *Current Medical Imaging Reviews*, Volume 14, No. 3, 422 - 429(8), 2018 (IF = 0.613)
  - G Gilanie, H Ullah, M Mehmood, **U I Bajwa\***, Z Habib (2018), "Colored Representation of Brain Gray Scale MRI Images to potentially underscore the variability and sensitivity of images", *Current Medical Imaging Reviews*, Volume 14, No. 4, 555 - 560, 2018 (IF = 0.613)
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- Khurram Ejaz, Mohd Shafy Mohd Rahim, Usama Ijaz Bajwa, Nadim Rana and Amjad Rehman, “An Unsupervised Learning With Feature Approach for Brain Tumor Identification and Segmentation Using Magnetic Resonance Imaging”, in *Proceedings of 9th International Conference on Bioscience, Biochemistry and Bioinformatics (ICBBB 2019)*, Singapore
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  - M Ghafoor, U Bajwa, I A Taj, “Fuel Nozzle Spray Pattern Classifier”, 9th International Conference on Frontiers of Information Technology (FIT 2011), PP: 303-307, 2011, Islamabad
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  - Research work “The Cyber Imago” by Doug Hampson & Usama Ijaz Bajwa, presented at Institute of Developmental Transactional Analysis (IDTA) conference 9th/10th November 2007, Glasgow, UK.

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#### FELLOWSHIPS

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- Higher Education Commission PhD Scholar
- Higher Education Commission fellowship for the International Research Support Initiative Program

#### AWARDS

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- **Best University Teacher Award (First Runner Up)(2021), across campuses of COMSATS University Islamabad**
- **Best Teacher Award (2017)**
- **CIIT Research Productivity Awards (2011, 2012, 2013, 2014, 2015, 2016, 2017)**
- Was awarded a scholarship from Ministry of Science & Technology (MoST) Pakistan and 8th in the test held for this scholarship 2000.

#### PROFESSIONAL SERVICES

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- Program Evaluator, National Computing Education Accreditation Council (NCEAC), Pakistan
- Member, Board of Advanced Studies and Research, Lahore Garrison University, Pakistan
- Member, Board of Advanced Studies and Research, University of Sialkot, Pakistan
- Subject Expert, Selection Board, University of the Punjab, Pakistan
- Subject Expert, Selection Board, University of Gujrat, Pakistan
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- Graduate Thesis Evaluator, Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Pakistan
  - Graduate Thesis Evaluator, The Islamia University of Bahawalpur, Pakistan
  - Graduate Thesis Evaluator, Lahore Garrison University, Pakistan
  - Final Year Project evaluator of many universities.
  - Expert, Self-Assessment (SAR) of Graduate Program, FAST-National University, Chiniot-Faisalabad Campus, Pakistan

## **PERSONAL DETAILS**

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Date of Birth: March 2nd, 1977

Marital Status: Married

Languages I speak: Punjabi, Urdu, English, Arabic fluently & a bit of German & Spanish

## **INTERESTS / HOBBIES**

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Philatelist, Numismatist, Swimmer, Trekker.

## **REFERENCES**

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