

# NAVEED ISLAM

Marital Status: Married  
Date of Birth: 01 Oct 1982.  
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## Objective

To be part of a competitive and challenging organization, where I can use my skills, experience and knowledge towards the objectives of the organization for its growth and success.

## Qualifications:

- 2008-2011:** **PhD in Computer Science (July 2011)**, from University of Montpellier II at LIRMM, France, under the supervision of Dr. William PUECH and Dr. Robert BROUZET.  
Thesis title: **Cryptography based Visual Data Protection.**
- 2007-2008:** **M2R Informatique course work**, at Ecole Polytech de l'Université de Tours, France.
- 2006-2007:** **MS Computer science course work**, at GIK Institute of Engineering Sciences and Technology, Pakistan.
- 2001-2005:** **BS Computer science (BSCS)**, from National University of Computer and Emerging Science (NUCES), Pakistan.

## Professional Experience (Teaching and R&D):

- More than ten (10) years of teaching, research & development experience in national and international research organizations including academia and industry.
- Expert in the fields of data processing, computer vision and robotics vision, information hiding & cryptography, artificial intelligence & machine learning.
- Strong skills in data analysis, representation (in spatial, time and frequency) and presentation for knowledge extraction and decision making.
- Implementation of information processing techniques for data hiding, enhancement, compression, segmentation, error correction and knowledge extraction, using different programming languages (i.e. Python, C/C++, Java, VB, Matlab, etc.) and different data processing and editing tools (i.e. MS Office, Latex, Open Office, SQL, etc).

## Teaching Experience:

- 2016-till date:** Assistant Professor, Dept. of Computer Science, Islamia College Peshawar, Pakistan.
- 2014-2015:** Assistant Professor, Dept. of Computer Science, National University of Computer & Emerging Sciences (NUCES), Pakistan.
- 2012-2013:** Visiting lecturer, Dept. of Computer Science, University of Paris-16, France.
- 2010-2011:** Visiting lecturer, Dept. of Computer Science, University of Bezier, France.

### Assistant Professor: Islamia College University Peshawar, Pakistan

#### January: 2016-till date

- Teaching courses to undergraduate and post-graduate level students; courses include Multimedia Security and Digital Watermarking, Applied Image processing, Digital Image Processing, Computer Vision, Machine learning, Artificial Intelligence, Objected Oriented Programming, Discrete Mathematics and Introduction to Computing.
- MS and PhD coordinator for assigning courses to MS and PhD levels students, review MS and PhD thesis, conduct written and oral examination of MS/PhD students, conducting advisory services in R&D related activities.
- Supervising MS and PhD student in the field of Computer Vision and Machine Learning.

<b>BS, MS and PhD Research Students Supervisions</b>	
BS research projects supervised	18
BS research projects under-supervision	08
MS students supervised	04
MS students under-supervision	08
PhD students supervised(co-supervision)	01
PhD students under-supervision	04

### Assistant Professor: National University of Computer & Emerging Sciences (NUCES)-FAST, Pakistan

#### August: 2014-December 2015

- Taught courses to undergraduate and post-graduate level students; courses include Multimedia Security and Digital Watermarking, Applied Image processing, Digital Image Processing, Objected Oriented Programming and Introduction to Computing.
- Supervised MS and PhD students in the field of Image Processing and Computer Vision.
- Supervising three final year projects; Titles: Stereo vision-based 3D Reconstruction; Gesture recognition using Kinect, Biometric based automated attendance system.
- PhD and MS advisor for student profiling, selection, course advisor and thesis evaluation.

## **Research and Development(R&D) Experience:**

### **Research Engineer/Scientist: ENSTA-Bretagne, France**

**June: 2013-Feb:2015**

- Real time design and development of algorithms for the processing of sonar data acquired using autonomous underwater vehicle (AUV) for mission planning and data analysis (Python, Numpy/SciPy, OpenCV).
- Analyses of noise models for AUV sonar data and proposition of a statistical measure representing the quality map for the input sonar data (Python, Numpy/SciPy, OpenCV).
- Maximum likelihood-based parameter estimation for noise modelling and using statistical hypothesis testing to measure how well the distribution fits to observed AUV sonar data (Python, Numpy/SciPy, OpenCV).

### **Computer Vision Engineer at RN3D lab, Marseille, France**

**Dec:2012-Mar:2013**

- Design and development of stereo vision-based 3D Reconstruction for interactive gaming environment (C/C++, Java, OpenCV).
- Measurement and optimization of overall performance of the 3D reconstruction process on the criteria of accuracy and computation time of the disparity map.

### **Postdoc Researcher: University of Amiens, MIS (Research Lab), France**

**Dec:2011-Nov:2012**

- Robot (Pioneer 3AT) exploration and map building for localization based on omnidirectional visual information (C/C++, OpenCV).
- Design and development of real time techniques for topological mapping of Robot (Pioneer 3AT) visual servoing (C/C++, OpenCV).
- Real time extraction of free space from Robot (Pioneer 3AT) omnidirectional camera using active contour models (C/C++, OpenCV).
- Manipulation of non-free space information in robotic vision for the creation of signature for region recognition and identification (C/C++, OpenCV).

### **PhD Researcher: University of Montpellier-2, LIRMM (Research Lab), France**

**Sept:2008-Nov:2011**

- Design and implementation of secret sharing protocol for visual data (images) for shared and distributed environment (C/C++, MATLAB, JAVA).
- Error correction in visual data (images), encrypted using AES algorithm using statistical properties of symmetric key algorithm and visual data (C/C++, MATLAB).
- Parallel processing of AES algorithm for visual data error correction in encrypted domain using OpenMP (C/C++, MATLAB).

## **Administrative Expertise and Tasks:**

- MS/PhD students and course coordinator-ship for various administrative tasks.
- BS final year project approval committee member.
- Technical committee member for the selection of new faculty members at NUCES-FAST.
- Technical committee member for the selection of MS & PhD students at NUCES-FAST.
- Head of the software competition society and adventure society at NUCES-FAST.
- Management of large-scale projects (from ideas to objective analysis and to report writings) in terms of its feasibility, milestones and skills (Managed Projects: R-Discovery, 3D-Reconstruction, Quality Mapping).
- Management of available human resource for the coordination of efforts, for the accomplishment of tasks and for the presentation of ideas into transformable models and practical implementations.

## **Projects, Funds and Professional Achievements**

- **International:**
  - Pak-Turk Mobility Grant for two years 2019-2021 worth 1.2 Million Pak Rupees.
  - Selected and participated for the workshop on Digital Watermarking at Surrey in England (August-2009).
  - Selected and participated for training and course in Asymmetric Encryption System at Trento in Italy (April-2010).
  - Post-Doctoral Fellowship at French National Agency for Research in the Project R-Discovery (2011-2012).
- **National:**
  - GIKI fellowship for MS in Computer Science (2006).
  - Two projects accepted for National Information & Communication Technologies (ICT) Funding 2016.
  - Two projects accepted for National Information & Communication Technologies (ICT) Funding 2015.

## **Editorial and Reviewing Activities of Impact Factor Journals**

1.	<b>Multimedia Tools and Applications</b>
2.	<b>IEEE-Access</b>
3.	<b>MDPI-Sensors</b>
4.	<b>MDPI-Energies</b>
5.	<b>EURASIP Journal of Advances in Signal Processing</b>
6.	<b>Elsevier Journal of Signal Processing and Image Communication</b>
7.	<b>Elsevier Pattern Recognition Letters</b>
8.	<b>Springer Journal of Cluster Computing</b>

## Scientific Publication:

### ISI Impact Factor Journal Publications:

S.NO	Author	Journal Name	ISS N	Article Title	Vol No and Page No / DOI	Date & Year Publication	Impact Factor
24	Naveed ISLAM	Elsevier Journal of Sustainable Cities and Society	2210-6707	LSRAR: A Light-weight Structure based Data Aggregation Routing Protocol with Secure Internet of Things Integrated Next-generation Sensor Networks	<a href="https://doi.org/10.1016/j.scs.2019.101995">https://doi.org/10.1016/j.scs.2019.101995</a>	Dec, 2019	4.624
23	Naveed ISLAM	IEEE Access	2169-3536	Intrusion Prevention Framework for Secure Routing in WSN-based Mobile Internet of Things	Vol : 7, Page :185496-185505, DOI: 10.1109/ACCESS.2019.2960633	Dec, 2019	4.098
22	Naveed ISLAM	IEEE Access	2169-3536	Identification of Yeast's Interactome using Neural Networks	Pages :179634 – 179645, Doi :10.1109/ACCESS.2019.2959401	Dec, 2019	4.098
21	Naveed ISLAM	MDPI-Energies	1996-1073	An Energy-Efficient and Secure Routing Protocol for Intrusion Avoidance in IoT-Based WSN	Vol :12, Issue : 21,	Nov, 2019	2.707
20	Naveed ISLAM	Elsevier Future Generation Computer Systems	0167-739X	A framework for topological based map building: A solution to autonomous robot navigation in smart cities	DOI:10.1016/j.future.2019.10.036	Oct, 2019	5.768
19	Naveed ISLAM	IEEE Access	2169-3536	LLTP-QoS: Low Latency Traffic Prioritization and QoS-aware routing in Wireless Body Sensor Networks	10.1109/ACCESS.2019.2922971	Oct, 2019	4.098
18	Naveed ISLAM	PLOS ONE	1932-6203	RCER: Reliable Cluster-based Energy-aware Routing protocol for heterogeneous Wireless Sensor Networks	<a href="https://doi.org/10.1371/journal.pone.0222009">https://doi.org/10.1371/journal.pone.0222009</a>	Sept, 2019	2.776
17	Naveed ISLAM	IEEE Access	2169-3536	WETRP: Weight based Energy & Temperature aware Routing Protocol for Wireless Body Sensor Networks	10.1109/ACCESS.2019.2925741	June, 2019	4.098
16	Naveed ISLAM	IEEE Access	2169-3536	Secret Sharing-based Energy-aware and Multi-hop Routing Protocol for IoT based WSNs	10.1109/ACCESS.2019.2922971	June, 2019	4.098
15	Naveed ISLAM	Elsevier Future Generation Computer Systems	0167-739X	A block chain-based fog computing framework for activity recognition as an application to e-Healthcare services	Volume 100, Pages 569-578	Nov, 2019	5.768
14	Naveed ISLAM	Elsevier Pattern Recognition Letters	0167-8655	A novel deep learning based framework for the detection and classification of breast cancer using transfer learning	Vol :125	1 July 2019	2.810
13	Naveed ISLAM	Elsevier Future Generation Computer Systems	0167-739X	An e-Health care services framework for the detection and classification of breast cancer in breast cytology images as an IoT application	Vol :98, Pages :286-296	29 March 2019	5.768
12	Naveed ISLAM	Pakistan Journal of Pharmaceutical Sciences (PJPS)	1011-601X	An automated nuclei segmentation of leukocytes from microscopic digital images	Vol.32, No.5, pp.2123-2138	Sept, 2019	0.596
11	Naveed ISLAM	WILEY Journal of Microscopy Research & Technique	1059-910X	Cloud-based decision support system for the detection and classification of malignant cells in breast cancer using breast cytology images	<a href="https://doi.org/10.1002/jemt.23222">https://doi.org/10.1002/jemt.23222</a>	29 Jan. 2019	1.327
10	Naveed ISLAM	WILEY Journal of Microscopy Research & Technique	1059-910X	An ensemble classification of exudates in color fundus images using an evolutionary algorithm based optimal features selection	Vol :82, Issue :4 Pages :361-372	24 Jan. 2019	1.327
9	Naveed ISLAM	Elsevier Journal of Computers, Environment and Urban Systems	0198-9715	Vehicle Navigation in GPS Denied Environment for Smart Cities Using Vision Sensors	<a href="https://doi.org/10.1016/j.compenvurbsys.2018.09.001">https://doi.org/10.1016/j.compenvurbsys.2018.09.001</a>	08 Oct. 2018	3.393
8	Naveed ISLAM	Springer Journal of Ambient Intelligence and Humanized Computing	1868-5137	Optic disc segmentation and classification in color fundus images: a resource-aware healthcare service in smart cities	<a href="https://doi.org/10.1007/s12652-018-0988-8">https://doi.org/10.1007/s12652-018-0988-8</a>	23 Sept. 2018	1.910
7	Naveed ISLAM	Elsevier Journal of Sustainable Cities and Society	2210-6707	SGKMP: A Scalable Group Key Management Protocol	Vol:39, Pages 37-42	May 2018	4.624
6	Naveed ISLAM	Multimedia Tools and Applications	1380-7501	A comparative study of graphic symbol recognition methods	<a href="https://doi.org/10.1007/s11042-018-6289-6">https://doi.org/10.1007/s11042-018-6289-6</a>	27 June 2018	2.101
5	Naveed ISLAM	Springer Journal of Cluster Computing	1386-7857	A framework for secure and privacy protected collaborative contents sharing using public OSN	<a href="https://doi.org/10.1007/s10586-017-1236-2">https://doi.org/10.1007/s10586-017-1236-2</a>	10 Oct. 2017	1.601
4	Naveed ISLAM	Elsevier Journal of Ocean Engineering	0029-8018	Incremental Clustering of Sonar Images using Self Organizing Maps combined with Fuzzy Adaptive Resonance Theory	Vol:42, Pages 133-144	15 Sept. 2017	2.214
3	Naveed ISLAM	Elsevier Journal of Signal Processing and Image Communication	0923-5965	Denoising and Error Correction in Noisy AES-Encrypted Images using Statistical Measures	Vol:41, Pages 15-27	18 Feb. 2016	2.073
2	Naveed ISLAM	Elsevier Journal of OPTICS COMMUNICATIONS	0030-4018	Application of Homomorphism to Secure Image Sharing	Vol:284	01 Sept. 2011	1.573
1	Naveed ISLAM	EURASIP Journal of Advances in Signal Processing	1687-6180	Seamless Heterogeneous Tessellation via DWT Domain Smoothing and Mosaicking	Vol : 2010	29 April, 2010	1.639

## Conferences Publications:

1. S. Khan, N. ISLAM, Z. Jan, H. U. Shah, A.U. Din, "Automated Counting of Cells in Breast Cytology Images Using Level Set Method", DOI: 10.1109, DSS.2018.00258, Conference: 2018 IEEE 20th International Conference on High Performance Computing and Communications, June-2018, United Kingdom (UK).
2. Amir Badshah, Sana Ullah, N. Islam, "Motion detection and action recognition using non-rigid registration", accepted in IEEE- 13<sup>th</sup> International Bhurban Conference on Applied Sciences and Technology (IBCAST), 2016, Islamabad, Pakistan.
3. N. Islam, A. Niat Chabane, B. Zerr, Y. Dupas, "Real time improvement of the seabed mapping with AUV-borne sensors using statistical analysis", in Proc. of 2nd International Conference and Exhibition on Underwater Acoustics, June, 2014, Corfu, Greece.
4. N. Islam and W. Puech, "Noise Removing in Encrypted Color Images by Statistical Analysis", in Proc. SPIE, Electronic Imaging, Media Watermarking, Security and Forensics, January 23–28, 2012, Pages 10, San-Francisco, CA, USA.
5. N. Islam and W. Puech, "Decryption of Noisy Encrypted Images by Statistical Analysis", in Proc. 3rd IEEE European Workshop on Visual Information Processing (EUVIP-2011), July 4–6, 2011, Pages 7, Paris, France.
6. N. Islam, W. Puech and R. Brouzet, "Comparison of Three Solutions to Correct Erroneous Blocks to Extract an Image of Multiplicative Homomorphic Cryptosystem", in Proc. SPIE, Electronic Imaging, Media Watermarking, Security and Forensics, January 23-28, 2011, Pages 11, San-Francisco, CA, USA.
7. N. Islam, W. Puech, K. Hayat and R. Brouzet, "Analysis of Homomorphic properties of RSA-Based cryptosystem for Image sharing", in Proc. IEEE-International Conference on Signal Processing (IEEE-ICSP-2010), October 24-28, 2010, Pages 4, Beijing, China.
8. N. Islam, W. Puech and R. Brouzet, "A Homomorphic Method for Sharing Secret Images", in Springer Lecture Notes in Computer Sciences (LNCS)-2009 in Digital Watermarking, Volume 5703, Pages 15, 2009.
9. N. Islam, W. Puech and R. Brouzet, "How to Secretly Share the Treasure Map of the Captain?", in Proc. SPIE Electronic Imaging, Multimedia on Mobile devices, January 2009, Pages 17–21, San Jose, CA, USA.

## Books:

10. N. Islam, Cryptography based Visual Data Protection, LAP Lambert Academic Publishing ISBN 978-3-8465-9622-7, paperback, 172 Pages.

## Book Chapters:

11. N. Islam and W. Puech, "Data Cryptography", in "Signal and image processing for biometrics", edited by Amine-NAIT-ALI, ISTE-WILEY, 2012, ISBN: 9781848213852.
12. N. Islam and W. Puech, "Visual Data Protection", in "Signal and image processing for biometrics", edited by Amine-NAIT-ALI, ISTE-WILEY, 2012, ISBN: 9781848213852.
13. N. Islam and W. Puech, "Cryptographie des données", in "Traitement du signal et de l'image pour la biométrie", edited by Amine-NAIT-ALI, HERMES, 2012.
14. N. Islam and W. Puech, "Protection des données visuelles", in "Traitement du signal et de l'image pour la biométrie", edited by Amine-NAIT-ALI, HERMES, 2012.

## Professional Skills:

- **Programming Languages:** C/C++, C#, JAVA, HTML, PHP, MySQL, Oracle, PL/SQL, Matlab, Prolog.
- **Operating Systems :** Linux, Windows.
- **Office tools:** Microsoft Office, Open Office.

## Languages:

- English (Excellent): Oral, Written and Spoken.
- French (Very good): Oral, Written and Spoken.

## Interests:

- Sports: Football, Cricket.
- Others: Video games, travelling.

## References:

- Dr. Benoit Zerr (Benoit.zerr@ensta-bretagne.fr)
- Dr. William PUECH (william.puech@lirmm.fr)
- Dr. Robert BROUZET (robert.brouzet@unimes.fr)