



**Prof. Dr. Noman Islam**  
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<http://bit.do/noman-islam>

**Research Interests:** machine learning, computer vision, natural language processing, cloud computing, mobile computing, software engineering

## Profile Summary

I am looking for suitable position in the domain of computer science in some reputable organization. I have done BS, MS, PhD and Post-Doc in computer science with specialization in machine learning. I have more than 70 research publications (44 in the domain of AI and machine learning, with an impact factor of 20 and citations count of around 1300. All of the publications are indexed and recognized by HEC.

In my undergraduate thesis, I worked on 'optical character recognition' and implemented the difference phases of OCR such as preprocessing, segmentation, feature extraction, classification and post-processing using NLP techniques. In my MS and PhD studies, I tested various unsupervised learning algorithms such as association rules mining using FP-Growth algorithm on data generated in specialized domains such as mobile and vehicular network. I have also worked on deep learning in my post-doc studies where I applied long short term memory model for load prediction and balancing in cloud computing. In addition, I did an additional 3 hours credit course from PAF KIET on deep learning.

I started my professional as a software engineer in a US based software house Technology Promotion International, where I worked on a range of technologies such as Java/ J2EE, HTML5, JavaScript, Android, .Net, Matlab, Action scripting in flash, Matlab and developed a range of research and commercial products. We implemented the TPI's patent based on autonomous logistic framework. I have three international certifications on HTML 5/ JavaScript, Android and Python.

I am currently associated as a Professor at PAF KIET. I was the head of research at Iqra university where I supervised my faculty in conducting research in the domain of deep learning. I am teaching graduate course at various universities on computer vision, natural language processing and big data analytics.

I spent most of my time running my own startup where we have been working exclusively on machine learning, deep learning, mobile application development and cloud computing technologies. In addition, I am also associated with Presidential Initiative for AI and Computing (PIAIC) for past five years where we have been working on cutting edge technologies such as python, tensorflow, docker, kubernetes, JavaScript, react and angular. Following are some of the projects that we worked on in past few years:

- Employing YOLO technique for Biker's helmet detection.
- Plant species detection from drone images
- Fake news detection using LSTM, GRU, CNN, BERT and a range of other techniques
- Worked on time series forecasting of COVID data using LSTM, RNN, ARIMA models. This also includes visualization of COVID trends, sentiment analysis
- Worked on several medical applications such as diabetic retinopathy detection using CNN, cancer detection etc.
- Sports application such as activity detection, golf swing detection, ski-jump prediction
- A generative adversarial network technique was used for compression of images
- An anti child abduction mobile application based on accelerometer's data has been generated. A complete mobile application is developed that uses LSTM model for predicting if a child is being kidnapped. The project won the technology award in USA out of 300 participants world wide
- Using bloom filter for detection of duplicates in data-ware house
- Employed unsupervised machine learning in mobile networks for predicting future service discovery requests, using recommendation system for anticipated caching data, detecting security loop holes; using ANN for predicting disaster such as earth quake detection
- Development of a .net based tool for ontology development and editing (TODE)
- Using swarm intelligence and deep learning for load balancing in cloud computing

### Formal Education

**Postdoctoral Research Fellow**, Feb 2020 –Jan 2021  
**University of Kuala Lumpur**, Kuala Lumpur, Malaysia

**Supervisor:** Prof. Dr. Shahrulniza Musa  
**Co-Supervisor:** Dr. Muhammad Mansoor Alam  
**Research Title:** Load balancing in cloud computing

**Ph.D. in Computer Science** Jan2013 (3.97/ 4.00) Ranked 1<sup>st</sup> merit-wise  
**National University of Computer & Emerging Sciences (NUCES)**, Karachi, Pakistan

**Thesis Title:** A Data Management Framework for Mobile Ad hoc Network  
**Supervisor:** Prof. Dr. Zubair A. Shaikh, NUCES, Karachi

**International Reviewers:**

Prof. Dr. Panagiotis Karampelas, Hellenic American University, Athens, Greece  
Dr. Jan Jürjens, Researcher and Senior Lecturer, Technical University, Dortmund

**M.S. in Computer Science** Jun 2006 (3.69 / 4.00) 2<sup>nd</sup> position overall  
**National University of Computer & Emerging Sciences (NUCES)**, Karachi, Pakistan

**Research Title:** Data Management in Ad hoc Networks  
**Supervisor:** Prof. Dr. Zubair A. Shaikh, Muhammad Ali Jinnah University, Karachi

**B.S. in Computer Science** Dec 2002 (3.57 / 4.00) Ranked 14<sup>th</sup> merit-wise  
**University of Karachi**, Karachi, Pakistan

**Thesis Title:** Optical Character Recognition  
**Supervisor:** Prof. Dr. Nasir Touheed, IBA, Karachi

### International Certifications

**Microsoft Exam 98-381: Introduction to Programming Using Python**

Date: Jan 26, 2019  
**Score: 92%**

**Microsoft 070-480 Programming in HTML5 with JavaScript and CSS3**

Date: Nov 18, 2013  
**Score: 1000 / 1000**

**OESF Authorized Certification Engineer for Android™**

Date: Dec 27, 2013  
**Score: 75%**

### Professional Trainings

**Sep 2016 – Dec 2016, Certificate in Deep Learning**, PAF-KIET, Karachi Pakistan

**Nov 2012 – Sep 2013, Mobile and Cloud Computing**, Sir Syed University of Engineering and Technology, Karachi, Pakistan

**Feb 2006, Disaster Recovery and Planning**, 3 days workshop, National University of Computer and Emerging Sciences, Karachi, Pakistan

**Sep 2001 – Apr 2003, E-Commerce and Web Technology**, Operation Badar, Pakistan

## Teaching Experience

- **February 2022 – current, Professor, College of Computer and Information Sciences, PAF KIET, Karachi**
  - Supervising research and development activities in the department
  - Writing research proposals
  - Teaching courses in the domain of computer science and artificial intelligence
- **September 2015 – February 2020, Associate Professor and Research Head, Department of Computer Science, Iqra University, Karachi, Pakistan**
  - Heading the faculty and assisting them in conducting and writing research articles
  - Teaching courses in the domain of computer science and artificial intelligence
- **March 2014 – September 2015, Assistant Professor, Department of Computing and Technology, Indus University, Karachi, Pakistan**
  - Teaching courses in the domain of computer science and artificial intelligence
- **August 2004 – July 2011, Research Fellow, Department of Computer Science, National University of Computer and Emerging Sciences, Karachi, Pakistan**

In addition, I have also taught graduate courses as a visiting faculty at following places:

- **Fall 2014 - Spring 2015, National University of Computer and Emerging Sciences, Pakistan**
  - Semantic web and Network Technologies
- **Fall 2017 – Spring 2019, Sindh Madrassatul Islam University, Pakistan**
  - Advanced Algorithm Analysis, Computer Vision
- **Fall 2018 – Spring 2019, Bahria University, Karachi**
  - Data Mining, Distributed Computing
- **Fall 2020 – Spring 2022, NED University, Karachi**
  - Big data analytics, Data visualization

I am also training the students professionally on cutting edge technologies at following places:

- **2016 – current, Presidential Initiative for AI and Computing, Pakistan**
  - Artificial intelligence
- **2020 – 2022, NED University, Continuing Education Program, Pakistan**
  - Diploma in Data Science
- **Jan – Dec 2021, ALADIN Academy, Pakistan**
  - Big data, machine learning and cloud computing

## Professional Experience

**CEO, ALADIN Solutions (March 2014-current)**

<https://tinyurl.com/aladin-solutions>

ALADIN Solutions is a group of companies focusing on software development and training in the state-of-the-art AI and cloud computing solutions. Following are some of the projects we have worked on :

- **Fake News Detection**

This project identifies fake news detection using state-of-the-art machine learning and deep learning techniques. The project involves implementation of several patented solutions. Amongst the various techniques it investigated includes logistic regression, decision trees, random forest, Naïve Bayes, k-NN, LSTM, GRU, BERT, CNN.

Keywords: **Python, tensorflow**

- **Golf Swing Detection**

This project investigates different techniques for recognition of golf swings based on real-time accelerometer data. The project uses different techniques such as hidden Markov model (HMM) and dynamic time warping (DTW) for training and classification of different golf swings. The tool allows visualizing accelerometer's data, performing offline training and identifying starting and ending positions of different types of swing.

**Keywords:** Java, dynamic time warping

- **Automatic PHP code repair**

This project uses long short term memory (LSTM) and sequence-to-sequence encoder model for automatic correction of PHP code. A sequence to sequence model based on auto-encoders. Once, the model is trained, it can be used to automatically detect any logical anomalies in code and also the appropriate code correction.

Keywords: sequence-to-sequence model, LSTM, Python, tensorflow

- **Deep learning for medical applications**

This project involves applying deep learning for various medical imaging datasets. This includes:

- Detection of diabetic retinopathy using various deep learning computer vision models such as CNN and its pre-trained models
- Detection of breast cancer using Convolutional neural networks, unsupervised learning based self organizing maps and artificial neural network.
- Human activity recognition using deep learning
- Ski-jump prediction

**Keywords:** Python, tensorflow, self organizing maps, tensorflow, Convolutional neural network

- **Anti-Child Abduction Mobile Application**

A mobile application that uses TensorflowJs and Ionic to recognizes if a child is being abducted. It involves data acquisition, preprocessing, training, visualization of data. It is based on LSTM to detect activity based on sequential data. The model was trained using cross validation. This project also won Technology award at Technovation USA

**Keywords:** Ionic, TensorflowJs, matplotlib, seaborn, LSTM, tensorflow

- **Deep Dive into COVID**

This project performed a deep analysis of COVID 19's data and following insights were gathered:

- Forecasting of COVID death and infected people using time series analysis
- Crime rate due to COVID
- Demographic analysis of people effected by COVID
- Detection of COVID using Convolutional neural network
- Sentiment analysis of people about COVID

**Keywords:** ARIMA, LSTM, Python, tensorflow

- **Time series forecasting of bit coin and stock price**

This project involves forecasting of bit coin and stock price using time series models such as LSTM, ARIMA

**Keywords:** ARIMA, LSTM, Python, tensorflow

- **Cross-Site Forgery Request (CSRF) protection**

This is a chrome extension for protection against CSRF attacks. The extension analyses currently downloaded page for possible threats based on various novel techniques and notifies users about these threats.

**Keywords:** JavaScript, Chrome extension

- **Biker's Helmet Detection**

This project is based on detection of biker's helmet in real time. The videos of bikers are analyzed and a model is trained into it. It uses computer vision and object detection technique to then analyze if a biker is wearing helmet. It detects the number plate of bikers with no helmet and generate alert.

**Keywords:** YOLO, OpenCV

- **Garbline**

This project is based on taking complaints about garbage issue of a user through a mobile application and web. The complaints are automatically sorted based on DialogFlow based natural language processing.

**Keywords:** ReactNative, DialogFlow

- **Association Rules based Network Layer Data and Information Management System (ALADIN)**

This project proposes a data management The project addresses core issues of data management i.e. acquisition, representation, storage, discovery and protection of data. Different techniques such as association rules mining, cross layer operation and multi-level knowledge representation were used to manage data in MANET.

**Keywords:** association rules mining, Java

- **Tool for Ontology Development and Editing (TODE)**

A dot net based tool for ontology development and editing that provides a simplified, W3C compliant, web based environment for ontology creation. The tool provides features for ontology creation, querying, reasoning, visualization and import/export the ontology to various formats.

**Keywords:** C#, Telerik, AJAX

**Aug 2011- Mar 2014, Team Lead, Technology Promotion International, Karachi, Pakistan -**

<http://www.techpromotion.com>

TPI delivers innovative engineering and information technology solutions to Government and also brings the benefits of these state of the art technologies to commercial enterprises. TPI conducts research and development in mechanical, electrical, and systems engineering as well as in real time intelligent software development.

- **Electronic Logbook (eLogBook)**

A web-based utility for management of electronic logbook of manufacturing plant. Different types of operations such as maintenance tasks or master tasks can be performed and reports based on criteria (such as production unit, work order types) can be generated

**Keywords:** ASP .net, AJAX, HTML5/ JavaScript

- **Autonomic progress monitoring system**

A mobile application for monitoring of progress of a remote site using pictures taken in auto/manual mode. Information about pictures (such as GPS, date time, site Id) are disseminated using web services that can be analyzed at server via animations and reports in real-time or offline mode

**Keywords:** Android, XML, RestAPI

**July 2004- July 2011, Sr. Software Engineer, Technology Promotion International, Karachi, Pakistan (As a consultant)**

Some of the projects were:

- **Human Resource Management System (HRMS®):**

HRMS is a complete web-based system for tracking human resources and management. HRMS is an integral part of an organization for facilitating the strategic planning by providing modules for employee management, payroll and attendance in an organization. A separate component miTimecard allows employees to enter time in and out from remote locations. HRMS can be integrated with WOTS and 3B in an organization to provide a total picture.

**Keywords:** Barcodes, Java, Servlets, JSP, JNLP, JDBC, Sockets HTML/ JavaScript, XML, Oracle

- **mTimeCard**

A mobile application for management of attendance of employee attendance records and sending it to HRMS server. The application comprises modules for full-time, regular, and project based employees that can be tracked by application and different types of reports can be generated as well as emailed to respective authorities

**Keywords:** Java, swing, XML, sockets

- **Work order tracking system (WOTS®):**

A software tool to optimally manage, schedule and track organizational work orders. WOTS schedules the work orders for optimal loadings of work centers. Then work order data is aggregated from the dispersed work centers to a centralized site. WOTS provides web access to the collected data for analysis and reporting.

**Keywords:** Java/ J2EE, C# .net, SQL Server

- **Project Billing, Booking and Backlog (P3B®)**

A software tool for plant managers and decision makers to view current and historical plant data in order to see in real time financial and order statuses. Plant managers can analyze, manage and search invoices, bookings and backlogged data. P3B provides an autonomous data collection utility that imports the organizations data without user intervention. Management reports are generated automatically and emailed to identified stakeholders. P3B provides a web based interface for viewing and searching data.

**Keywords:** Java/ J2EE, AJAX, C# .net, VB. Net, SQL server

- **Human factor engineering – Data management and Acquisition System (HFE-DMAS)**

HFE-DMAS provides tools to HFE Specialists for acquiring HFE measurements, surveys, and analysis data from target objects or situations. The system guides the specialists in what aspects of and how to measure the target object. Additional information in the form of historical HFE studies, analyses, standards and handbooks are provided to assist in data acquisition and decision-making. The HFE-DMAS can be used by the HFE and system engineering community to acquire appropriate HFE data and for generating HFE documentations. Product manufacturers can use HFE-DMAS for qualification and documentation.

**Keywords:** Java, Servlets, JSP, JDBC, Sockets, HTML/ JavaScript, XML, SQL

- **Proposal generator**

A powerful tool to generate research proposals using organizational historical data. The tool allows quick proposal development via a graphical interface which can then be exported in a variety of useful formats.

**Keywords:** Java, Swing, AJAX, PDF generator

- **Airborne Telemetry Simulation**

This project is a Matlab/ Simulink model and Java Graphical User Interface for building the telemetry system. This project resulted in a simulation model with multiple mobile sources and many antenna elements. A fully functional GUI supported the data entry for model testing.

**Keywords:** Matlab, Simulink, Java, Swing

**Jun 2003- Jun 2004, Software Engineer, Technology Promotion International, Karachi, Pakistan**

Some of the major projects, I worked as a software engineering in TPI includes:

- **Precision and Sea-based Logistics (PSL)**

The objective of this project is AI-based real-time monitoring of status of objects (such as vehicles). The project used several novel concepts such as condition monitoring, mobile agents, software ontology and distributed computing for real-time monitoring. The project spans around two years comprising various modules for health monitoring, situation awareness, work order management, real-time status tracking and decision making.

**Keywords:** Java, Servlets, JSP, JNLP, JDBC, Sockets HTML/ JavaScript, XML, Oracle

- **Faults and Usage Management System (FUMS)**

The FUMS software allows a user to browse a remote vehicle's faults in real time, select a fault and troubleshoot the problem. For troubleshooting, the user browses the Interactive Electronic Technical Manual (IETM) using an IETM browsing software. The maintainer can order the parts to perform the real time maintenance of equipment and vehicles remotely. Maintainers can order parts, troubleshoot, and schedule maintenance from his/her office.

**Keywords:** Java, Servlets, JSP, JNLP, JDBC, Sockets HTML/ JavaScript, XML, Oracle

- **Survey designer**

A web-based survey designing tool developed in Java/ Applets. The survey can be generated in various formats and saved on database, and exported as a jar file. The client can take the survey from home using browser.

**Keywords:** Java, Sockets, Applets

## **Research Publications**

Following are selected research publications. The full list can be seen on Google scholar and Researchgate.

<https://scholar.google.com/citations?user=nSX1XQOAAAAJ&hl=en&oi=ao>

\* Journal publications are underlined

2022

1. Darakhshan Syed, Noman Islam, "A Fast Converging and Globally Optimized Approach for Load Balancing in Cloud Computing", IEEE Access, Third round, (SCI / WoS indexed, IF=3.8)
2. Roohan Aziz, Asim Imdad Wagan, Noman Islam, Umair Saeed, "Block Based Learned Image Compression", Second round, Multimedia Tools and Applications, (SCI/ WoS indexed, IF = 2.757)
3. Muntazir Mehdi, Noman Islam, Anamta Irfan, Sana Habib. 2022. "Sentiment Analysis of Public Reaction towards Pakistan Democratic Movement", Pakistan Journal of Engineering and Technology (HEC recognized)
4. Muhammad, Ghulam, Umair Saeed, Noman Islam, Kamlesh Kumar, Fahad Hussain, Mansoor Ahmed Khurro, Aftab Ahmed Shaikh, and Iqra Ali. "GVDDeepNet: Unsupervised Deep Learning Techniques for Effective Genetic Variant Classification" Pakistan Journal of Engineering and Technology 5, no. 1 (2022): 16-22. (HEC recognized)
5. Noman Islam, Enayat Raza, Sheraz Mohsin, Ashar Anasari and Razeen Shuja, "Forecasting on Pakistan's Covid19 data using ARIMAX model" In Data Science with Semantic Technologies: A New Trend and Future Development, Taylor and Francis (SENSE recognized)
6. Noman Islam, Darakhshan Syed, Zubair A. Shaikh. 2022. "Semantic web: An overview and a .net based tool for knowledge extraction and ontology development", In Semantic Technologies for Intelligent Industry 4.0 Applications, River publishers, IEEE (SENSE recognized)
7. Noman Islam, Darakhshan Syed, Mariz Zafar, Asif Raza. 2022. "Visualizing chat-bot knowledge graph using RDF", In Research and Applications of Semantic Web Technologies, CRC Press
8. Darakhshan Syed, Noman Islam, Muhammad Hammad Shabbir, and Syed Babar Manzar. "Applications of Big Data in Smart Health Systems." In Handbook of Research on Mathematical Modeling for Smart Healthcare Systems (2022): 52-85, IGI Globals. (SENSE recognized)

## **2021**

9. Elmagzoub Abdalla, Darakhshan Syed, Asadullah Sahaikh, Noman Islam, Abdullah Alghamdi and Syed Rizwan, "A Survey of Swarm Intelligence based Load Balancing Techniques in Cloud Computing Environment", Electronics, 2021 (SCI/ WoS Indexed, IF=2.421)
10. Noman Islam, Shaikh, A., Qaiser, A., Asiri, Y., Almakdi, S., Sulaiman, A. and Babar, S. A. (2021). "Ternion: An Autonomous Model for Fake News Detection". Applied Sciences, 11(19), 9292. (SCI/ WoS indexed, IF=2.679)
11. Asadullah Shaikh, Syed Rizwan, Abdullah Alghamdi, Noman Islam, M.A. Elmagzoub and Darakhshan Syed, "A Learning-Based Fault Localization Approach Using Subset of Likely and Dynamic Invariants", Intelligent Automation and Soft Computing, 2021 (SCI/ WoS Indexed, IF=1.647)
12. Muhammad Asim Shahid, Noman Islam, Muhammad Mansoor Alam, M.S Mazliham, Shahrulniza Musa, , "Towards Resilient Method: An Exhaustive Survey of Fault Tolerance Methods in the Cloud Computing Environment", Computer Science Review, Elsevier , 20201 (SCI/ WoS Indexed, IF = 7.7)
13. Abdullah Alghamdi, Tooba Mehtab, Rizwan Iqbal, Mona Leza, Noaman Islam, Mohammed Hamdi, and Asadullah Shaikh, "Automatic Classification of Monosyllabic and Multisyllabic Birds using PDHF", March 2021, Electronics, MDPI, (SCI/ WoS Indexed, IF = 2.1)
14. Noman Islam, Yaseen, A. and Ghaffar, A., 2021. Context-Aware Music Recommendations System in a Car. Asian Journal of Engineering, Sciences & Technology, 11(1).
15. Noman Islam, Ghazala Shafi Sheikh, Zubair A. Shaikh. 2021. "Using association rules mining, multi-level data representation and cross-layer operations for data management in mobile ad hoc network", International Journal of Intelligent Engineering Informatics (ACM/ ESCI Indexed)
16. Umair Saeed, Kamlesh Kumar, Asif Laghari, Mansoor Khuhro, Noman Islam, Ghulam Muhammad Shaikh, Fahad Hussain, and A. Shaikh, 2021. "A comparative analysis of classification techniques for human activity recognition using wearable sensors and smart-phones", EAI Endorsed Transactions on Pervasive Health and Technology (ESCI Indexed)
17. Noman Islam and Ain-ud-din Wahab, 2021. "5G Networks: A Holistic View of Enabling Technologies and Research Challenges", in book: Research Anthology on Developing and Optimizing 5G Networks and the Impact on Society, IGI Globals (Scopus indexed)
18. Noman Islam, Syed Saqib Abbas Rizvi, "Analyzing the trends of software development in under-developed countries based on stack overflow responses", 4th International Conference on Computing & Information Sciences November 29-30, 2021, Karachi, Pakistan (IEEE, ranked by CORE)
19. Shan Ahmed Usmani, Syed Khurram Kamran, Muhammad Zeeshan, Noman Islam, Zamin Ali Khan , "A Comparative Analysis of Apriori and Fp-Growth Algorithms for Frequent Pattern Mining Using Apache Spark", in proceedings of International Scientific Research Conference, Azerbaijan, April, 2021

20. Mirza Hammad Baig , Danish Karim , Noman Islam, “Analysis of public sentiments about COVID-19 based on twitter’s tweets”, in proceedings of Euro Asia International Conference, Uzbekistan, March 2021

## 2020

21. Muhammad Asim Shahid, Noman Islam, Muhammad Mansoor Alam, M.S Mazliham, Shahrulniza Musa, 2020 “A comprehensive study of load balancing approaches in the cloud computing environment and a novel fault tolerance approach”, IEEE Access (SCI/ WoS Indexed, IF = 4.6)
22. Ruqiya, Noman Islam, Athaul Rai, Noman Khan, “Usability analysis of android and iOS operating systems”, International Journal of Engineering Trends and Technology (IJETT), vol. 68(10), 2020 (Scopus Indexed)
23. Kamlesh Kumar, Umair Saeed, Athaul Rai, Noman Islam, GM Shaikh, Abdul Qayyum, “IDC Breast Cancer Detection Using Deep Learning Scheme”, Advances in Data Science and Adaptive Analysis, vol. 12(2), 2020 (ESCI Indexed)
24. Muhammad Talha Qureshi, Athaul Rai, Noman Islam, Ghazala Shafi Sheikh, “A Four-Pronged Low Cost and Optimized Traffic Routing Solution”, International Journal of Interactive Mobile Technologies (iJIM), June, 2020(Scopus Indexed)

## 2019

25. Fahad Hussain, Umair Saeed, Ghulam Muhammad, Noman Islam, Ghazala Shafi Sheikh.2019. “Classifying cancer patients based on DNA sequences using machine learning”, Journal of Medical Imaging and Health Informatics, vol. 9(3), pp. 436-443 (SCI/ WoS indexed, IF=0.549)
26. Noman Islam, Kashif Laeeq. 2019. “Salaat Ontology: A domain ontology for modeling information related to prayers in Islam”, Indian Journal of Science and Technology, 12(1), pp. 1-12, 2019 (ESCI Indexed)
27. Noman Islam, Ghazala Shafi Sheikh, Rida Fatima and Farrukh Alvi, 2019. “A study of difficulties of students in learning programming”, Journal Education and Social Sciences (JESS), vol. 7(2), pp. 38-46 (Proceedings of National Symposium on Artificial Intelligence and Computer Science, Pakistan, 28-29<sup>th</sup> April, 2019) (HEC recognized)
28. Noman Islam and Ain-ud-din Wahab, 2019. “5G Networks: A Holistic View of Enabling Technologies and Research Challenges”, in book: Enabling Technologies and Architectures for Next-Generation Networking Capabilities, IGI Globals (scopus Indexed)
29. Noman Islam, “A secure service discovery scheme for mobile ad hoc network using artificial deep neural network”, in proceedings of Frontiers in Information Technology, Islamabad, Pakistan, 16-18 December, 2019 (IEEE, CORE ranked)
30. Noman Islam, Umair Saeed, Rubina Naz, Jaweria Tanveer, Kamlesh Kumar, “DeepDR: An image guided diabetic retinopathy detection technique using attention-based deep learning scheme”, In Proceedings of 2nd International Conference on new Trends in Computing Sciences, 9-11 Oct, 2019, Amman, Jordan (Scopus, IEEE)
31. Syed Rizwan, Syed Hasan and Noman Islam, “Detecting duplicates in real-time dataware house using bloom filter based approach”, In Proceedings of International Conference on Intelligent Technologies and Applications, 6-8 November 2019, Pakistan (Scopus)
32. Noman Islam, “An image processing based approach to analyse ski-jump’s length, height and velocity of an athlete “, in proceedings of 2nd International Conference on Information Science & Communication Technology, Feb 8-9, 2020, Karachi (IEEE, Scopus)
33. Noman Islam, Zubair A. Shaikh, “Towards ontology editing, querying and visualization in. net environment”, in proceedings of 8th International Conference on Information and Communication Technologies (ICICT), 2019, Pakistan (Scopus, IEEE)
34. Noman Islam, “A novel context-aware caching scheme for 5G networks”, in Proceedings of 13th International Conference - Mathematics, Actuarial, Computer Science & Statistics (MACS 13), IoBM, Karachi, 14-15 December, 2019 (IEEE, Scopus)
35. Muhammad Imran, Muhammad Faisal and Noman Islam, “Problems and Vulnerabilities of Ethical Hacking in Pakistan”, In Proceedings of International Conference on Latest trends in Electrical Engineering & Computing Technologies, 13-14 November, Karachi, Pakistan (IEEE, scopus)

## 2018

36. Soobia Saeed, Fozia Hanif Khan, Sadiq Ali Khan, Noman Islam.2018. “Challenge and Eventual Applications for under waterSensor Networking and Intelligent Water Quality Monitoring”, Presented at Global Conference on Wireless & Optical Communications, Spain
37. Soobia Saeed, Fozia Hanif Khan, Sadiq Ali Khan, Noman Islam, 2018. “Conceptions of Software Testing as a Service”, Journal of Fundamental and Applied Sciences (Proceedings of 4th International Conference on Green Computing and Engineering Technologies, Denmark, 2018) (ESCI Indexed)
38. Noman Islam. 2018. “A Novel Framework Using Machine Learning to Effectively Analyze the Faculty Evaluations”, Journal of Education and Social Sciences, vol. 6(2), pp. 40-52 (Proceedings of International Conference on Innovation and Emerging Trends in Business Management, Education and Social Sciences, 9-10 January,2018, Karachi) (HEC recognized)

## 2017

39. Noman Islam, Ghazala Shafi Sheikh and Zeeshan Islam, "A cognitive radio ad hoc network's based disaster management scheme with efficient spectrum management, collaboration and interoperability", Journal of Information and Communication Technology, vol. 10(1), 2017 (HEC recognized)
40. Noman Islam and Zeeshan Islam, "An economic perspective on major cloud computing providers", Journal of Information and Communication Technology, vol. 10(1), 2017 (HEC recognized)
41. Noman Islam, Zeeshan Islam and Nazia Noor, "A survey on optical character recognition system", Journal of Information and Communication Technology, vol. 10(2), pp. 1-4, 2017 (HEC recognized)
42. Zeeshan Islam and Noman Islam, "A conceptual approach to library management system based on optical character recognition", Presented at International Conference on Research in Education and Technologies, March 2-4, 2017, Khairpur, Pakistan

#### **2016**

43. Ghazala Shafi Sheikh and Noman Islam, "A qualitative study of major programming languages: teaching programming languages to computer science students", Journal of Information and Communication Technology, vol. 10(1), pp. 24-34, 2016 (HEC recognized)
44. Noman Islam and Ghazala Shafi Sheikh, "A review of techniques for ontology editor evaluation", Journal of Information and Communication Technology, vol. 9(2), 2016 (HEC recognized)
45. Kashif Laeeq, Noman Islam and Jalal Bhayo.2016. "Performance analysis of TCP and UDP over mobile ad hoc network", Journal of Independent Studies and Research, SZABIST University, vol. 14(1), pp. 12-15 (Proceedings of SZABIST Multidisciplinary International Conference (SMIC-2016), UAE, January 2016) (HEC recognized)

#### **2015**

46. Aqeel-ur-Rehman and Noman Islam. 2015. "Agricultural Ontologies" In Smart Agriculture: A better approach towards Agricultural Management, OMICS Group
47. Ghazala Shafi Sheikh and Noman Islam, "Towards a context-aware smart library management system", International Journal of Conceptions on Computing and Information Technology, vol. 3 (2), August 2015 (Proceedings of International Conference on Mathematics and Information Technology, Srilanka, August 2015) (DOAJ Indexed)
48. Murad Ali, Mirza Hassan Baig, Zubair Shaikh, Noman Islam and Muhammad Hussain, "Secure Distance Learning Based on Context Aware Ontology of the User's Behavior", In Proceedings of 8<sup>th</sup> Annual Emerging Technologies for Online Learning, January 30 2015, Dallas, Texas, USA
49. Noman Islam and Ghazala Shafi Sheikh, "Towards a Disaster Response System based on Cognitive Radio Ad Hoc Networks", In Proceedings of Second International, Conference on Next Generation Computing and Communication Technologies (ICNGCCT 2015), UAE, 2015
50. Hafiz Muhammad Sohaib Azhar, Mumtaz Hussain Soomro, Rohail Ali Khan, Sohail Sarang and Noman Islam. 2015. "Mobile Alert System for Abnormal EEG Activity", Presented at 30th IEEE International Multi-Topic Symposium, Karachi, Pakistan

#### **2014**

51. Aqeel-ur-Rehman, Abu Z. Abbasi, Noman Islam and Zubair A. Shaikh. 2014. "A Review of Wireless Sensors and Networks' Applications in Agriculture", Computer Standards & Interfaces, ISSN: 0920-5489, Elsevier (SCI/ WoS Indexed, IF=0.978)
52. Noman Islam and Zubair A. Shaikh. 2014. "A Study of Research Trends and Issues in Wireless Ad Hoc Networks", In Handbook of Research on Progressive Trends in Wireless Communications and Networking, edited by M.A. Matin, 208-248, IGI Globals (SENSE recognized)

#### **2013**

53. Noman Islam, Zubair A. Shaikh, Aqeel-ur-Rehman and Muhammad Shahab Siddiqui. 2013. "HANDY: A Hybrid Association Rules Mining Approach for Network Layer Discovery of Services", Wireless Networks, Springer, ISSN: 1022-0038, Springer (SCI/ WoS Indexed, IF=0.736)
54. Noman Islam and Zubair A. Shaikh. 2013. "Security Issues in Mobile Ad hoc Network." In Wireless Networks and Security, Signals and Communication Technology, edited by Shafiullah Khan and Al-Sakib Khan Pathan, 49-80. Springer. (ISBN: 978-3-642-36168-5)
55. Noman Islam and Aqeel-ur-Rehman. 2013. "A comparative study of major service providers for cloud computing", In Proceedings of 1st International Conference on Information and Communication Technology Trends (ICICTT), Federal Urdu University of Arts, Science and Technology, Karachi, Pakistan, September 2-5, 2013

#### **2012**

56. Noman Islam and Zubair A. Shaikh. 2012. "Towards a Robust and Scalable Semantic Service Discovery Scheme for Mobile Ad hoc Network." Pakistan Journal of Engineering and Applied Sciences. 10: 68-88. (ISSN: 1995-1302). (HEC recognized)
57. Noman Islam, Zubair A. Shaikh, and Ghulam A. Mallah. 2012. "A Prognostic Solution for Transport Management based on Mobile Ad hoc Network." Sindh University Research Journal. vol. 49 (2AB): 87-91. (ISSN: 1813-1743) (Proceedings of 2<sup>nd</sup>International Conference on Computers & Emerging Technologies(ICCET 2012), Pakistan) (HEC recognized)

#### **2011**

58. Noman Islam, Zubair A. Shaikh, and Aqeel-ur-Rehman. 2011. "COINS: Towards a Correlation Based Intrusion Detection System for Mobile Ad hoc Network." Sindh University Research Journal. 43 (1A): 91-96. (ISSN: 1813-1743). (Proceedings of International Conference on Computers and Emerging Technologies (ICCET 2011), Pakistan) (HEC recognized)
59. Noman Islam and Zubair A. Shaikh. 2011. "A Survey of Data Management Issues & Frameworks for Mobile Ad hoc Networks." In Proceedings of 4th International Conference on Information and Communication Technologies (ICICT 2011), Institute of Business Administration, Karachi. July 23-24, 2011 (IEEE)

#### **2010**

60. Noman Islam, Noor A. Shaikh, Ghulam A. Mallah, Zubair A. Shaikh, and Aqeel-ur-Rehman. 2010. "A Network Layer Service Discovery Approach for Mobile Ad hoc Network Using Association Rules Mining." Australian Journal of Basic and Applied Sciences. 4(6): 1305-1315. (ISSN: 1991-8178) (ESCI / Scopus Indexed)
61. Aqeel-ur-Rehman, Zubair A. Shaikh, Noor A. Shaikh and Noman Islam. 2010. "An Integrated Framework to Develop Context-Aware Sensor Grid for Agriculture", Australian Journal of Basic and Applied Sciences, vol. 4, issue 5, pp. 922-931, May 2010, (ISSN: 1991-8178)(ESCI/ Scopus Indexed)
62. Noman Islam, Abu Z. Abbasi, and Zubair A. Shaikh. 2010. "Semantic Web: Choosing the Right Methodologies, Tools and Standards." In Proceedings of 2nd IEEE International Conference on Information and Emerging Technologies (ICIET 2010), National University of Computer and Emerging Sciences, Karachi, Pakistan, June 14-16, 2010 (IEEE, CORE ranked)
63. Noman Islam. "A Data Management Framework for Mobile Ad hoc Networks (MANET)." Poster Presented at Doctoral Symposium, 2nd IEEE International Conference on Information and Emerging Technologies (ICIET 2010), National University of Computer and Emerging Sciences, Karachi, Pakistan, June 14-16, 2010 (IEEE, CORE ranked)
64. Noman Islam, Muhammad S. Siddiqui, and Zubair A. Shaikh. 2010. "TODE: A Dot Net Based Tool for Ontology Development and Editing." In Proceedings of 2nd International Conference on Computer Engineering and Technology (ICCET 2010), Chengdu, China, April 14-16, 2010. (IEEE)
65. Noman Islam and Zubair A. Shaikh, 2010. "FIPA and MASIF Standards: A Comparative Study and Strategies for Integration", In Proceedings of National Software Engineering Conference (NSEC 2010) (ACM)
66. Noman Islam and Zubair A. Shaikh. 2010. "Exploiting Correlation among Data Items for Cache Replacement in Ad-hoc Networks." In Proceedings of 2nd IEEE International Conference on Information Management and Engineering (IEEE ICIME 2010), Chengdu, China, April 14-16, 2010. (IEEE)

#### **2009**

67. Noman Islam and Ghazala Shafi Sheikh, "Towards cloud based mobile ad hoc network simulation", In Proceedings of Sixth International Conference on Computing, Communications and Networking Technologies (ICCCNT)", Texas, USA, 2015 (IEEE, CORE ranked)
68. Noman Islam and Zubair A. Shaikh. 2009. "Service Discovery in Mobile Ad hoc Networks Using Association Rules Mining." In Proceedings of 13th IEEE International Multitopic Conference 2009 (INMIC-2009), Islamabad, Pakistan, December 14-15, 2009. (IEEE, CORE ranked)

#### **2008**

69. Noman Islam, Zubair A. Shaikh, and Shah Nawaz Talpur. 2008. "Towards a Grid-based approach to Traffic Routing in VANET." In Proceedings of E-Indus (E-Indus 2008), Institute of Industrial and Electronics Engineering, Karachi, Pakistan, April 29<sup>th</sup>, 2008.
70. Noman Islam. 2008. "A Data Management Framework for Mobile Ad hoc Networks (MANET)." Presented at Doctoral Symposium on Research in Computer Science (DSRCS), University of Central Punjab, Lahore, Pakistan, August 9-10, 2008.
71. Noman Islam and Zubair A. Shaikh. 2008. "A Novel Approach to Service Discovery in Mobile Adhoc Network." In Proceedings of International Networking and Communications Conference (INCC-2008), Lahore University of Management and Science, Lahore, Pakistan, May 1-3, 2008 (WoS/ Scopus)

#### **2007**

72. Noman Islam, Ghulam Ali Mallah and Zubair A. Shaikh, "On the Need of a New Standard for Multi-Agent Systems A Comprehensive Survey and Recommendations", In Proceedings of International Conference on Soft Computing and Intelligent Systems, Jabalpur, India, December 27, 2007

### **Research Highlights**

- ✓ Developed an Intelligent Traffic monitoring system to detect bikers without helmet and number plate, 2019
- ✓ Developed Garblin, a garbage complaint system, 2019
- ✓ Developed a Three Pronged Faculty Evaluation Tool, 2018
- ✓ Won ICT RnD grant for Smart Library management system, 2015
- ✓ Developed ALADIN, a fully funded data management framework, 2011
- ✓ Developed AgriGrid, a fully funded context aware sensor grid framework, 2011
- ✓ Developed a fully funded .net based tool for ontology development and editing, 2009
- ✓ Developed ACE NET, a fully funded software agent development framework, 2006
- ✓ Worked on Faults and Usage Management System (FUMS), a fully funded US Project, 2004
- ✓ Developed a course on Software Agents, 2004
- ✓ Awarded HEC grants for MS / PhD , 2004
- ✓ Developed a Service Discovery protocol for MANET, 2006
- ✓ Wrote an OCR Engine, 2002

### **Technical Skills**

#### **Technical Skills**

- **Python:** Python, Numpy, Panda, Django, TensorFlow, Keras, nltk, OpenCV, PyTorch
- **HTML5/ JavaScript:** HTML5, CSS3, AJAX, Bootstrap, Chrome, jQuery, jQueryMobile, MEAN (MongoDB, ExpressJs, AngularJs, NodeJs), Chrome Extension, Firebase, Grunt, D3, Three.js, PhoneGap
- **Java/ J2EE:** Servlets/ JSP, Struts, JavaMail, Socket, JDBC, RMI, EJB, JNLP, Android, Hibernate, Xerces, Spring
- **.NET framework:** WinForms, WPF, ASP .NET AJAX, Telerik

#### **Research Tools and Frameworks**

- **Networking tools:** JIST/ SWANS, NS-2, OPNET, JNS
- **Semantic web:** Protégé, TOPE, JENA
- **Software agents:** JADE, JATLite, Aglets
- **Mathematical and analysis tools:** Matlab, R
- **Other tools:** Alchemi, Microsoft Windows Work Flow Foundation (WWF)

### **Major Courses**

Software Agents, Mobile and Ubiquitous Computing, Grid Computing, Research Methods, Security Issues in Ad hoc Network, Ontology Storage and Management, Natural Language Processing, Operating System, Software Engineering, Database Management System, Artificial Intelligence, Machine Learning, Computer Vision, Algorithm Analysis, Semantic Web, Network Management and Monitoring, Software Development Methodologies, Distributed Computing, Concepts of Programming Languages, Compiler

Construction, Computer Networking, Object Oriented Programming, Programming Fundamentals, Digital Computer Logic, E-Commerce Strategies, Data Mining

### **Editorial And Reviewing Responsibilities**

- ✓ Reviewer, IEEE Access (IF=4.098)
- ✓ Reviewer, Journal of Supercomputing (IF=2.157)
- ✓ Reviewer, Computer and Electronics in Agriculture, Elsevier (IF=3.17)
- ✓ Reviewer, Multimedia Tools and Applications (IF=2.1)
- ✓ Keynote speech, International Conference on Computational Sciences and Technology, (INCCST) 17-19 December, 2020, Pakistan
- ✓ Keynote speech, International Virtual Conference Of Emerging Trends In Computing and Software Engineering 2020, October 30-31, 2020, Pakistan
- ✓ Invited Speech, 10th International Conference on Electronics, Communications and Networks, October 25-28, 2020, China
- ✓ Keynote speech, International E-Conference on Recent Advances in Computer Science and Information Technology (RACSIT2020), September 24-25, 2020, Pakistan
- ✓ Convener, National Symposium on Artificial Intelligence and Computer Science (NSAIC), 2019
- ✓ Plenary Speaker, International Conference on Data Science (ICDS 19), Feb 19, Muhammad Ali Jinnah University, Pakistan
- ✓ Discussant, International Conference on Innovation and Emerging Trends in Business Management, Education and Social Sciences, 9-10 January, 2018, Karachi, Pakistan
- ✓ Program Committee Member, IEEE ICIEECT, Indus University, 2017, Pakistan
- ✓ Program Committee Member, IEEE IndiaCom, 2015, India
- ✓ Program Committee Member, IEEE IndiaCom, 2017, India
- ✓ Session Chair, International Conference on Information Technology and Computer Science, November 16, 2017, Pakistan
- ✓ Session Chair, International Conference on Information Technology and Computer Science, June 16, 2016, Pakistan
- ✓ Session Chair, International Conference on Information Technology and Computer Science, Oct 30-31, 2016, Pakistan
- ✓ Session Chair, IEEE SCONEST, December 15-16, 2016 Pakistan
- ✓ Session Chair, International Conference on Next-generation Computer and Communication Technologies, April 15, Dubai
- ✓ Invited Speaker, International Conference on Recent Innovation in Information Technology in Pakistan, Feb 2015, Pakistan
- ✓ Head, Organizing Committee, and Member, Technical Review Committee IEEE Karachi Student Section Congress, 2015

### **Research Grants**

<b>Project Title</b>	<b>Institution</b>	<b>Funding body</b>	<b>Funds</b>	<b>Principle Investigator</b>	<b>Duration</b>
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A context-aware smart library management system	Indus University, Karachi	ICT RnD, Pakistan	PKR 70,000/=	Dr. Noman Islam	2015
A data management framework for mobile ad hoc network (MANET)	National University of Computer and Emerging Sciences, Karachi	Higher Education Commission (HEC), Pakistan	PKR 1.5 M/=	Dr. Zubair A. Shaikh	2006-2011
Data management in ad hoc network	National University of Computer and Emerging Sciences, Karachi	Higher Education Commission (HEC), Pakistan	PKR 0.5 M/=	Dr. Zubair A. Shaikh	2004-2006

### **Achievements & Awards**

- ✓ Invited Speaker, deeplearning.ai Pakistan's meetup
- ✓ Organizer of NeurIPS 2020 meetup for AI
- ✓ Technology Award, Technovation Family AI Competition, 2019, USA
- ✓ Technical Advisor, President's Initiative for Artificial Intelligence and Computing
- ✓ Plenary Speaker, ICDS19, Feb 19, MAJU
- ✓ Passed Microsoft 070-480 exam with full marks (1000/1000)
- ✓ Secured the highest CGPA in Ph.D. batch
- ✓ Secured 2nd position in M.S. and was awarded Silver Medal
- ✓ Amongst top 15 students of B.S.
- ✓ Developed the First ever Dot Net based Tool (TODE) for ontology development and editing
- ✓ Secured 1st prize in Inter Institute Level Programming Competition organized by Operation Badar in 2002
- ✓ HEC Indigenous PhD Scholarship

### **Personal Information**

**Languages:** English, Urdu  
**Religion:** Islam  
**Date of Birth:** 2<sup>nd</sup> January, 1982  
**Nationality:** Pakistani

**Research Interests:**  
 Wireless ad hoc network, cloud computing, Deep learning, 5G networks

#### **Memberships:**

- ✓ Patron, Association for Computing Machinery (ACM), Iqra University Gulshan Campus
- ✓ Board of Studies, Iqra University, Indus University, Jinnah University For Women and Shaheed Benazir Butto University
- ✓ Board of Faculty, Institute of Business and Technology, Iqra University and Indus University
- ✓ Board of Advanced Studies and Research, Indus University

- ✓ Academic Council, Indus University, Pakistan
- ✓ External Self-Assessment Team Member: Quality Enhancement Cell, Hamdard University, Karachi, Indus University, Karachi, Pakistan
- ✓ Permanent Member, Institute of Applied AI Engineers
- ✓ Senior Research Fellow, Center for Research in Ubiquitous Computing (CRUC), Pakistan
- ✓ Researcher, AI Soft

#### **References**

- *Dr. Salim A. Shaikh* (msalimshaikh@hotmail.com)  
Chief Executive Officer, Technology Promotion International, Marry Land, United States of America
- *Dr. Shabbir Ahmed* (shabbir\_ahmed61@hotmail.com)  
Scholar and Coordinator, Rooyat-e-Hilal Committee, Australia
- *Prof. Dr. Zubair A. Shaikh* (zubair.shaikh@jinnah.edu)  
President, Muhammad Ali Jinnah University, Karachi, Pakistan