

# Prof. Dr. Raheela Asif

## (NED Approved Supervisor)

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## Objective

To work in a dynamic and challenging environment which offer growth to my professional appetite.

## Specializations:

- Machine Learning
- Data Mining

## Education

- PhD. (Computer Science), NED University of Engineering & Technology, Karachi.  
**Supervisor:** Dr. Najmi Ghani Haider (Chairman Software Engineering Department, NEDUET)  
**Co-Supervisor:** Prof. Dr. Agathe Merceron (Beuth University of Applied Science, Berlin, Germany)  
**Thesis:** Understanding Undergraduate Students' Performance Using Educational Data Mining
- M.S (Software Engineering), Sir Syed University of Engineering & Technology, Karachi.
- Masters in Computer Science & Information Technology (M.C.I.T), NED University of Engineering & Technology, Karachi.
- B.E. (Computer & Information Systems), NED University of Engineering & Technology, Karachi

## Prizes / Medals/Awards/Honors

- **Gold Medalist:** Secure highest marks (90%) in Urdu in HSC –Part1.
- **Best publication award 2017:** NED Alumni Association of Southern California (NEDAASC) - **Asif, R.**, Merceron, A. Ali, S. A., Haider, N., “Understanding Students’ Performance at Degree Level”, Computers & Education Journal, Volume 113, October 2017, Pages 177-194.
- **Expert Member:** Board of Studies (Computer Science & Software Engineering) at **Jinnah University for Women, Karachi** – January 2021 for 3 years.
- **Expert Member:** Board of Studies (Computer Science & Software Engineering) at **Jinnah University for Women, Karachi** – January 2024 for 3 years.

- **Expert Member:** Board of Studies (Computer Science) at **Nazeer Hussain University** – January 2023 for 3 years.
- **Subject Expert:** Selection Board, at **Jinnah University for Women, Karachi**, 2019.
- **Member Academic Council:** at **Jinnah University for Women, Karachi** – April 2024 for 3 years.
- **Reviewer:** HEC- Grand Challenge Fund (GCF), 2023.
- **External Examiner:** M. E Thesis, **Mehran University of Engineering & Technology, Jamshoro**, 2020,2021,2022,2024.
- **External Examiner:** PhD Internal Thesis Defense at Bahria University, Karachi Campus scheduled on 29th Jan 2025.
- **Paper Setter:** Written test for the post of Assistant Manager (Database) (BPS-17).
- **Internal Examiner:** PhD Thesis Defense at NEDUET, scheduled on 29th April, 2025.

## Experience

### October 2025- Till Date

Professor in Department of Computer Science & Information Technology, NEDUET

### March 2018- September 2025

Associate Professor in Department of Software Engineering, NEDUET

### January 2010 – February 2018

Assistant Professor in Department of Computer Science & Software Engineering, NEDUET

### July 2006 – January 2010

Lecturer in Department of Computer Science & Information Technology, NEDUET

## Professional Membership

Life time Member of Pakistan Engineering Council. Registration No: COMP/1831

## Publications:

### Journal Publications:

1. Imran, M., Ahmed, S., **Asif, R**, Hina, S., Farman, H., “A Comparative Study of Data Mining Techniques for Predicting Candidates’ Performance Based on High School Records”, Journal of Computing & Biomedical Informatics, Vol. 09, No. 2, 2025.
2. Naz, L.F., Qamar, R., **Asif, R**, Hina, S., Ahmed, S., Imran, M., “Intelligent energy management in IoT-enabled smart homes: Anomaly detection and consumption prediction for

- energy-efficient usage”, Mehran University Research Journal Of Engineering & Technology, Vol. 44, No. 1, 2025, Pages 113-123.
3. Mahboob, K., **Asif, R.**, Haider, N., “Career planning matters: Intelligence-based career path predictions using data mining models-A longitudinal study”, Mehran University Research Journal Of Engineering & Technology, Vol. 43, No. 4, 2024, Pages 192-213.
  4. Naz, L.F., Qamar, R., **Asif, R.**, Ahmed, S., Imran, M., “BlockEstate: Revolutionizing Real Estate Transactions through Hyperledger-based Blockchain Technology”, Engineering, Technology & Applied Science Research, Vol.14, No. 3, 2024, Pages 14458-14464.
  5. Naz, L.F., Qamar, R., **Asif, R.**, Ahmed, S., Imran, M., “Robot Vision over CosGANs to Enhance Performance with Source-Free Domain Adaptation Using Advanced Loss Function”. Intelligent Automation & Soft Computing, Vol.39, No. 5, 2024. DOI: 10.32604/iasc.2024.055074
  6. Qamar, R., **Asif, R.**, Naz, L.F., Mannan, A., Hussain, A.,”FlightForecast: A Comparative Analysis of Stack LSTM and V-anilla LSTM Models for Flight Prediction”, VFAST Transactions on Software Engineering, Vol. 12, No.1,2024, Pages 13-24.
  7. Siddiqui, T., Hina, S., **Asif, R.**, Ahmed, S., Ahmed, M., “An ensemble approach for the identification and classification of crime tweets in the English language”, Computer Science and Information Technologies, Vol. 4, No.2, 2023, Pages 149-159.
  8. Qaiser, A., Hina, S., Kazi, A. K., Ahmed, S., **Asif, R.**, “Fake News Encoder Classifier (FNEC) for Online Published News Related to COVID-19 Vaccines.”, Intelligent Automation & Soft Computing, Vol. 37, No. 1, 2023.
  9. Mahboob, K., **Asif, R.**, Haider, N., “A data mining approach to forecast students' career placement probabilities and recommendations in the programming field, Mehran University Research Journal Of Engineering & Technology, Vol. 42, No. 2, 2023, Pages 169-187.
  10. Kazi, A. K., Andleeb, Ahmed, S., **Asif, R.**, “Predictive Healthcare Analysis of Pakistan’s COVID-19 Pandemic Using Data Mining and Time Series Modelling”, Pakistan Journal of Engineering, Technology & Science, Vol. 11, No. 1, 2023, Pages 74-84.
  11. Ahmed, S., Hina, S., **Asif, R.**, Ahmed, S., Ahmed, M., “Development and Evaluation of Gold Standard Dataset for Sentiment Analysis of Tweets”, Pakistan Journal of Engineering and Technology, Vol. 6, No. 4, 2023, Pages 7-12.
  12. Mahboob, K., **Asif, R.**, Haider, N.,” Quality enhancement at higher education institutions by early identifying students at risk using data mining”, Mehran University Research Journal of Engineering & Technology, Vol. 42, No. 1, January 2023, Pages 120-136.
  13. Kanwal, A., Kumar, P., **Asif, R.**, Hina, S., “Analysis and countermeasures of wormhole and sinkhole attacks in WBAN”, Journal of Independent Studies and Research Computing, Vol. 20, No. 1, July 2022, Pages 22-30.

14. Hina, S., **Asif, R.**, Ali, S. A.” Anonymisation framework for securing protected health information (PHI) in a complex dataset of medical narratives”, Mehran University Research Journal of Engineering & Technology, Vol. 39, No. 3, July 2020, Pages 612-624.
15. **Asif, R.**, Haque, S. I., Hina, S., Qaim, S.D., Haider, M., H., Khan, H. A.,” Cricket Scraper: A Tool Developed to Extract Cricket Players Data”, Indian Journal of Science and Technology (IJST), Vol. 12, No. 26, July 2019.
16. Ali, M., **Asif, R.**, “A Framework for creation of designs of varying complexity for use in weaving/printing of textiles”, International Journal of Computer Science and Network Security (IJCSNS), Vol. 19, No. 5, May 2019.
17. Ali, S. A., **Asif, R.**, Hina, S., Fatima, Z., “Cloud Based Remote Lab Platform: An Application of Internet of things (IoT)”, Mehran University Research Journal of Engineering & Technology, Vol. 37, No.4, Oct, 2018.
18. Ahmed, S., Hina, S., **Asif, R.**, “Detection of Sentiment Polarity of Unstructured Multi-Language Text from Social Media”, International Journal of Advanced Computer Science and Applications, Vol. 9, Issue, 7, July, 2018.
19. **Asif, R.**, Merceron, A. Ali, S. A., Haider, N., “Understanding Students’ Performance at Degree Level”, Computers & Education Journal, Volume 113, October 2017, Pages 177-194
20. Hina, S., **Asif, R.**, Mushtaq, S., “Business Intelligence Solution for Food Industry”, Journal of Basic and Applied Sciences. Vol. 13, 2017.
21. Ahmed, F., **Asif, R.**, Hina, S, Muzammil, M., “Financial Market Prediction using Google Trends”, International Journal of Advanced Computer Science and Applications (IJACSA), Vol. 8, No. 7, July, 2017.
22. **Asif, R.**, Hina, S, Haque, S. I. “Predicting Student Academic Performance using Data Mining Methods”, International Journal of Computer Science and Network Security (IJCSNS), Vol. 17, No. 5, May 2017 .
23. Hina, S, **Asif, R.**, Wahab, A., Noman, U., Ahmed, W., “Secure Information Exchange of Patient’s Health Records Using Anonymization Techniques”, International Journal of Computer Science and Network Security (IJCSNS), Vol. 17, No. 5, May 2017 .
24. Itrat, M., Ali, S. A., **Asif, R.**, Khanzada, K., Rathi, M.K., "Automatic Language Identification for Languages of Pakistan”, International Journal of Computer Science and Network Security (IJCSNS), Vol. 17, No. 2, February, 2017.
25. **Asif, R.**, Haque, S. I., Zaheer, M. T., Hasan, M. A., “Football (Soccer) Analytics: A Case Study on the Availability and Limitations of Data for Football Analytics Research”, International Journal of Computer Science and Information Security (IJCSIS), Vol. 14, No. 11, November, 2016.

26. **Asif, R.**, Haider, N., Ali, S. A.” Prediction of Undergraduate Student’s Performance Using Data Mining Methods”, International Journal of Computer Science and Information Security (IJCSIS), Vol. 14, No. 5, May, 2016.
27. Ali, S. A., Andleeb, M., **Asif, R.**, Rehman, D., “Performance Evaluation of Loss Functions for Margin Based Robust Speech Recognition”, International Journal of Advanced Computer Science and Applications (IJACSA), Vol. 7, No. 2, February, 2016.
28. **Asif, R.**, Merceron, A. & Pathan, M. “Predicting student academic performance at degree level: a case study” International Journal of Intelligent Systems and Applications (IJISA), Vol. 7, No. 1, 2015, 49-61. DOI: 10.5815/ijisa.2015.01.05.

### **Book Chapters:**

1. Mahboob, K., **Asif, R.**, Umme, L., “Leveraging Generative AI for Cross-Cultural Knowledge Exchange in Higher Education”, Facilitating Global Collaboration and Knowledge Sharing in Higher Education With Generative AI, Pages 186-206, 2024.
2. Hina, S., R., **Asif, R.**, Kumar, P. “E-health natural language processing”, Healthcare Monitoring and Data Analysis Using IoT: Technologies and Applications, Vol. 38, February 2022, Pages 167-176.
3. Qamar, R., **Asif, R.**, Kumar, P., Ali, S. A. ”Framework for Mid-Air Traffic Collision Detection Using Data Analytics, A Fusion of Artificial Intelligence and Internet of Things for Emerging Cyber Systems, pp 451-461, Part of the Intelligent Systems Reference Library book series (ISRL, volume 210), August 2021

### **Peer Reviewed Conference Publications:**

1. Mahboob, K., **Asif, R.**, Mustafa, S. M. N., Rana, H. "Predicting Students' Behavior Towards their Degree using Machine Learning Techniques," 2022 3rd International Conference on Innovations in Computer Science & Software Engineering (ICONICS), Karachi, Pakistan, 2022, pp. 1-6, doi: 10.1109/ICONICS56716.2022.10100533.
2. Hoda, S. R. U., **Asif, R.**, "Comparison of Undergraduate Students Performance Admitted Through Two Different Admission Criterion," 2022 3rd International Conference on Innovations in Computer Science & Software Engineering (ICONICS), Karachi, Pakistan, 2022, pp. 1-10, doi: 10.1109/ICONICS56716.2022.10100381.
3. Iqbal, N., **Asif, R.**, "Analyzing Applicant’s Pre-admission data and Predicting Applicant’s Performance in Pre-Admission Test using Data Mining Techniques," 2022 3rd International Conference on Innovations in Computer Science & Software Engineering (ICONICS), Karachi, Pakistan, 2022, pp. 1-11, doi: 10.1109/ICONICS56716.2022.10100546.
4. Ahmed, H., Hina, S., **Asif, R.**, "Evaluation of descriptive answers of open ended questions using NLP techniques," 2021 4th International Conference on Computing & Information Sciences (ICCIS), Karachi, Pakistan, 2021, pp. 1-7, doi: 10.1109/ICCIS54243.2021.9676405.

5. **Asif, R.**, Merceron, A. & Pathan, M. “Investigating Performance of Students: a Longitudinal Study”, Proceedings of the Fifth International Conference on Learning Analytics and Knowledge, Poughkeepsie, NY, USA, March 16 - 20, 2015, 108-112. DOI: 10.1145/2723576.2723579.
6. **Asif, R.**, Merceron, A. & Pathan, M. “Mining Student’s Admission Data And Predicting Student’s Performance Using Decision Trees”, Proceedings of ICERI2012 Conference, Madrid, Spain, November 19-21, 2012 , 5121-5129, ISBN: 978-84-616-0763-1
7. **Mustafa, R.** “Characterization of Internal Learning Parameters in Artificial Neural Networks”, Proceedings of 2009 International Association of Computer Science and Information Technology - Spring Conference, Singapore, April 17-20, 2009. DOI: 10.1109/IACSIT-SC.2009.92

#### **Workshop Publication:**

- **Asif, R.**, Merceron, A. & Pathan, M. “Investigating Performances’ Progress of Students”, Proceedings of the Workshop Learning Analytics, 12th e-Learning Conference of the German Computer Society (DeLFI 2014), Freiburg, Germany, September 15, 2014, 116-123.

## **Supervised PhD Thesis:**

**Title:** Design and Development of an Intelligent Career Recommendation System Using Data Mining Models for Generic Applications (February 2024)

## **Supervising PhD Thesis (in Progress).**

1. Title: Deep Learning-based Framework for Detection of Lung Cancer
2. Title: Framework for Designing Computationally-Efficient Deep Neural Networks on Edge Computing using Adaptive Compression Technique
3. Title: Framework for deterministic Automation and CQI of structured documents using Language Models and Reinforcement Learning
4. Big data driven modelling of Greenhouse gases using Explainable Artificial Intelligence.

#### **Master level -Independent Study projects (ISP): (6- credited hours)**

- More than 15 ISPs have been supervised to date.

## Invited talks/speeches/Chair session:

- **Guest Speaker:** Grade IX Counselling Session at Generation's School, January, 2025.
- **Session Chair:** NED-Women Conference, Novemeber, 2024.
- **Chair, Marketing:** NED-Women Conference Novemeber, 2024.
- **Guest Speaker:** Grade IX Counselling Session at Generation's School, November 2023.
- **Poster Session Chair:** 7th International Multi-Topic ICT Conference, IMTIC'23, May 2023.
- **Speaker:** First International Conference on Higher Education for the Deaf in Pakistan, 2022.
- **Session Co-Chair:** 3rd International Conference on Innovations in Computer Science and Software Engineering (ICONICS'18), December 2022.
- **Publication Chair:** 3rd International Conference on Innovations in Computer Science and Software Engineering (ICONICS'18), December 2022.
- **Judge:** Generian Lego League (GLL)- intra-school annual competition simulating of the First Lego League - an internationally acclaimed robotics contest at Generation's School, October 2019.
- **Judge:** JTECH 2022 Technology Extravaganza at Jinnah University for Women, February 2022.
- **Session Co-Chair:** 2nd International Conference on Innovations in Computer Science and Software Engineering (ICONICS'18), December 2018.
- **Judge:** Technova'25 flagship national-level technology event at College of Computer Science & Information Systems (CCSIS), Institute of Business Management (IoBM), July 2025.
- **Expert Member:** Qualification Development Session organized by British Council in collaboration with NAVTTC, 18-20th August, 2025.

## Grants received/ Funded Projects:

Project Title	Donor	Amount	Status
<b>PhD Thesis:</b> Deep Learning-based Framework for Detection of Lung Cancer	MoST Endowment Fund /NED Research fund - November 2022	1.0 Million	In Progress
<b>PhD Thesis:</b> Design and Development of an Intelligent Career Recommendation System Using Data Mining Models for Generic Applications	MoST Endowment Fund /NED Research fund - February 2022	0.8 Million	Completed
<b>FYP:</b> Enhancing E-Bike	National Grassroot		Completed



Sustainability with Health Monitoring and Battery Swapping Infrastructure	ICT Research Initiative (NGIRI) 2023-24	Rs.80,000/-	
<b>FYP:</b> NED-Express	NEDAASC FYP Funding 2022-23	Rs.162,965/-	Completed
<b>FYP:</b> Remote Healthcare Monitoring and Data Analysis of Patients	FYP-National Grassroot ICT Research Initiative (NGIRI) 20221-22	Rs.54,466/-	Completed
<b>FYP:</b> OBD CHARM	FYP-National Grassroot ICT Research Initiative (NGIRI) 2021-22	Rs.42,750/-	Completed

## References

1. **Prof. Dr. Agathe Merceron**, Berlin University of Applied Sciences, Berlin, Germany.  
Email: [merceron@bht-berlin.de](mailto:merceron@bht-berlin.de)
2. **Dr. Najeed Ahmad Khan**, Professor, Department of Computer Science & Software Engineering, NEDUET.  
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