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**Neelam Mukhtar**

Assistant Professor,

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**Profile**

I have completed my Ph.D Computer Science (Natural Language Processing) in 2018 from Department of Computer Science, University of Peshawar. I am working as Assistant Professor at University of Peshawar, Pakistan. I have done MS (Computer Science) in Natural Language Processing from University of Peshawar. I have several research publications in well-reputed national and international journals and conference proceedings. My research interest includes Natural Language Processing, Sentiment analysis, Text Mining and Machine Learning.

**Objectives**

To work within a competitive environment, where I can utilize my professional abilities in the best interest of the organization and to become a good researcher so that to better serve the society.

**Personal Information**

Father name: ChiraghuMinallah

Marital Status: Married

Religion: Islam

Domicile: Peshawar

Nationality: Pakistani

**Academic Background**

**Ph.D Computer Science**

Department of Computer Science, University of Peshawar, Session 2011-2012

**MS Computer Science**

Department of Computer Science, University of Peshawar, Session 2008-2010.

**M.Sc Computer Science**

University of Peshawar, Session 1994-95

**B.Sc (Bachelor of Science)**

University of Peshawar, Session 1990 -92

**HSSC**

BISEP, Session 1988-90

**SSC**

BISEP, Session 1988

**PhD research topic**

**“Enhancing Accuracy of Urdu Sentiment Analysis, using Lexicon-based approach”**

**MS research topic**

**“Corpus Based Syntactic Parsing of Urdu Using Statistical Techniques”**

**Experience**

1. Assistant Professor, College of Home Economics, University of Peshawar, from April, 2013 till date.
2. Lecturer (Permanent), College of Home Economics, University of Peshawar, from September, 2003 to March 2013.
3. Lecturer (Contract), College of Home Economics, University of Peshawar, from November, 1999 to August 2003.
4. Computer Teacher, Beacon House School System, Jamrud Campus from February 1998 to September 1999.

**Research Publications****Category “W” Papers (having Impact Factor of ISI JCR)**

1. **Neelam Mukhtar**, Mohammad Abid Khan, Nadia Chiragh, Shah Nazir, and Asim Ullah Jan, “An Intelligent Unsupervised Approach for Handling Context-Dependent Words in Urdu Sentiment Analysis”, Transactions on Asian and Low-Resource Language Information Processing, 21(5), Article 92, 2022, pp. 1-15, doi.acm.org?doi=3510830, (IF 1.413, based on JCR, 2020).
2. Zhen Ying, Iftikhar Ahmad, Saima Mateen, Asad Zia, Ambreen, Shah Nazir, **Neelam Mukhtar**, “An Overview of Computational Models for Industrial Internet of Things to Enhance Usability”, Complexity, 2021, 11<sub>2</sub>

- pages, pp 1-11, <https://doi.org/10.1155/2021/5554685>, **(IF 2.833, based on JCR, 2020)**.
3. Xin Yang, Shah Nazir, Habib Ullah Khan, Muhammad Shafiq, **Neelam Mukhtar**, “Parallel Computing for Efficient and Intelligent Industrial Internet of Health Things: An Overview”, *Complexity*, 2021, 11 pages, pp 1-11, <https://doi.org/10.1155/2021/6636898>, **(IF 2.462, based on JCR 2019)**.
  4. Banghua Wu, Shah Nazir, **Neelam Mukhtar**, “Identification of Attack on Data Packets Using Rough Set Approach to Secure End to End Communication”, *Complexity*, 2020, 12 pages, pp 1-12, <https://doi.org/10.1155/2020/6690569> **(IF 2.462, based on JCR 2019)**.
  5. **Neelam Mukhtar**, Mohammad Abid Khan, “Effective lexicon-based approach for Urdu sentiment analysis”, *Artificial Intelligence Review*, 2020, 53(4), pp 2521–2548, <https://doi.org/10.1007/s10462-019-09740-5>. **(IF 5.095, based on JCR 2018)**.
  6. Madeeha Aman, Saeed Mahfooz, Muhammad Zubair, **Neelam Mukhtar**, Kanwal Imran, Shah Khusro “Tunnel-Free Distributed Mobility Management (DMM) Support Protocol for Future Mobile Networks”, *Electronics* 2019, 8(12), 1519; <https://doi.org/10.3390/electronics8121519>. **(IF 1.764, based on JCR 2018)**
  7. Shah Nazir, Sara Shahzad, Rahmita Wirza, Rohul Amin, Muhammad Ahsan, **Neelam Mukhtar**, Ivan Garcia-Magarino, Jaime Lloret. “Birthmark based identification of software piracy using Haar wavelet”, *Mathematics and Computers in Simulation* 2019, <https://doi.org/10.1016/j.matcom.2019.04.010>, 166 (2019), pp 144-154. **(IF 1.476, based on JCR 2017)**.
  8. Shah Nazir, Sara Shahzad and **Neelam Mukhtar**. “Software Birthmark Design and Estimation: A Systematic Literature Review”, *Arabian Journal for Science and Engineering*. <https://doi.org/10.1007/s13369-019-03718-9>, 44 (4), 2019, pp 3905-3927. **(IF 1.092, based on JCR 2017)**.
  9. **Neelam Mukhtar**, Mohammad Abid Khan, Nadia Chiragh and Shah Nazir. “Identification and handling of intensifiers for enhancing accuracy of Urdu sentiment analysis”, *Expert Systems*. <https://doi.org/10.1111/exsy.12317>, 35(6), 2018, pp 1-12. **(IF 1.43, based on JCR 2017)**.
  10. **Neelam Mukhtar**, Mohammad Abid Khan, Nadia Chiragh. “Lexicon-based approach outperforms supervised machine learning approach for Urdu

Sentiment Analysis in multiple domains”, *Telematics and Informatics*. <https://doi.org/10.1016/j.tele.2018.08.003>, 35(8), 2018, pp. 2173-2183. **(IF 3.789, based on JCR 2017).**

11. **Neelam Mukhtar** and Mohammad Abid Khan. “Urdu Sentiment Analysis using supervised machine learning approach”, *Int. J. Patt. Recogn. Artif.Intell.* <https://doi.org/10.1142/S0218001418510011>, 32(2), 2018. pp.1851001-1-1851001-15. **(IF 0.9, based on JCR 2016).**
12. **Neelam Mukhtar**, Mohammad Abid Khan and Nadia Chiragh. “Effective Use of Evaluation Measures for the Validation of Best Classifier in Urdu Sentiment Analysis”, *Cogn Comput.* doi:10.1007/s12559-017-9481-5, 9(4), 2017, pp. 446-456. **(IF 3.441, based on JCR 2016).**
13. Shah Nazir, Sara Shahzad, **Neelam Mukhtar**, Humaira Khan, Islam Zada, Muhammad Nazir, and Rohul Amin, "Test case prioritization for components using FANP," *Life Science Journal*, 11(6s), 2014, pp. 504-511, **(IF 0.16, based on JCR 2012).**

#### **HEC recognized Journal Papers**

14. **Neelam Mukhtar**, Mohammad Abid Khan, Nadia Chiragh, Asim Ullah Jan , Shah Nazir, “Recognition and Effective Handling of Negations in Enhancing the Accuracy of Urdu Sentiment Analyzer”, *Mehran University Research Journal of Engineering and Technology*, DOI: 10.22581/muet1982.2004.08, 39(4), 2020, pp 759-770 (HEC recognized (HJRS), Y category journal).
15. Asim Ullah Jan, Mohammad Abid Khan, **Neelam Mukhtar**, “Opinion Mining and Summarization: A comprehensive Review”, *Journal of Information Communication Technologies and Robotic Applications (JICTRA)*, 11 (1), 2020, pp 76-96 (HEC recognized, X category journal).
16. Mussarat Anwar, Ayesha Anwar and **Neelam Mukhtar** “Effects of Birth order on Child’s Personality”, *Journal of Independent studies and research (JISR)*, 7(1), January, 2009.

#### **Other Journal Papers**

17. **Neelam Mukhtar**, Mohammad Abid Khan, Fatima Tuz Zuhra and Nadia Chiragh “Implementation of Urdu Probabilistic Parser”, *International Journal of Computational Linguistics (IJCL)*, 3(1), 2012. pp 12-20.

18. **Neelam Mukhtar**, Mohammad Abid Khan and Fatima Tuz Zuhra “Algorithm for developing Urdu Probabilistic Parser”, International Journal of Electrical and Computer Sciences (IJECS-IJENS), 12(3), 2012. pp 57-66.
19. **Neelam Mukhtar**, Mohammad Abid Khan and Fatima Tuz Zuhra “Probabilistic Context Free Grammar for Urdu”, Linguistics and Literature Review (LLR), 2(2), 2016. pp. 106-113.

### **Conference Papers**

20. Muhammad Aamir, Asim Ullah Jan, **Neelam Mukhtar**, Mohammad Abid Khan, Zafar Ali, Waheed Ahmed Abro, Guan Yurong, “An Unsupervised Graph-Based Hybrid Approach For Opinion Summarization”, in 2021 18th International Computer Conference on Wavelet Active Media Technology and Information Processing (ICCWAMTIP)©2021,IEEE, pp 83-88
21. **Neelam Mukhtar**, Sara Shahzad, Mohammad Abid Khan and Shah Nazir “Ontology for Feature Based Selection of Web Development Tools” in Proceedings of the 8<sup>th</sup> International Conference of Digital Information Management IEEE ICDIM 2013, 10<sup>th</sup> -12<sup>th</sup> September, Islamabad.
22. Shah Nazir, Sara Shahzad, **Neelam Mukhtar**, and Muhammad Nazir, "Ontology for efficient text/criteria based search functionality in website", in 2<sup>nd</sup> Abasyn International Conference on the Technology and Business Management (AiCTM), Pakistan, 2014.

### **Research Interest**

Natural Language Processing, Parsing, Sentiment analysis, Text Mining and Machine Learning.

### **Courses studied**

Computational Morphology, Syntax, Corpus Linguistics, Real time system, Theory of computation, Advance Computer architecture, Advance analysis of algorithm, Automatic translation, Middleware, Pattern recognition, research methodology and Statistics.

### **Courses taught to Undergraduate**

1. Fundamentals of Information technology
2. Computer Graphics and Visual Programming
3. Computer Graphics and Web Designing
4. Statistics

5. Applications of Information and Communication Technologies
6. Quantitative Reasoning 1 & II

### **Courses taught to Postgraduate**

1. Statistical Computing
2. Corpus Linguistics
3. Natural Language Engineering

### **Supervision/Co supervision of research at higher studies**

| S.No | Name            | Program | Thesis Title                                |
|------|-----------------|---------|---------------------------------------------|
| 1    | Shams ul Bashar | MS      | Urdu Sentiment Analysis using Deep learning |

### **Seminars/Work Shops attended**

1. Attended two days workshop on “Use of AI in Teaching and Research” under faculty development Program for faculty of University of Peshawar, organized by CHRCO on 5<sup>th</sup> and 6<sup>th</sup> November, 2025.
2. Attended four days workshop on “Project management and Proposal writing” from 28<sup>th</sup> October to 31<sup>st</sup> October, 2013 , organized by Center for Human Resource and Career development, University of Peshawar and Higher Education Commission.
3. Participated in one day seminar on “Wireless communication” at Edwards College Peshawar on 20<sup>th</sup> Jan, 2007.
4. Attended four days workshop on “Statistical Data Handling”, from 4<sup>th</sup> July to 8<sup>th</sup> July, 2005, organized by Department of Statistics, University of Peshawar.
5. Attended two days workshop on “Computer Training for College Lecturers”, from 8<sup>th</sup> March to 9<sup>th</sup> March, 2003, organized by Frontier Education Foundation.

### **Lectures/Workshops/Seminars organized**

1. Guest Speaker for Seminar on “Technological Integration-AI and Smart Homes”, on 25<sup>th</sup> Feb 2026, arranged for M.Phil students by Department of Human Development and Family Studies at College of Home Economics, University of Peshawar.
2. Arranged two days workshop on “Sampling and Data Analysis using SPSS” on 28<sup>th</sup> and 30<sup>th</sup> November, 2023.

3. Arranged three days workshop on “Basic Computer Skills” for College Laboratory staff from 19<sup>th</sup> Sept 2023 to 21<sup>st</sup> Sept 2023.
4. Arranged a work shop on “Data Analysis” at College of Home Economics, University of Peshawar on 2<sup>nd</sup> June, 2022.
5. Arranged Lecture on “Linear Programming” at College of Home Economics, University of Peshawar on 11<sup>th</sup> March, 2022.
6. Resource person for Seminar on “Statistics in Research”, on 28<sup>th</sup> Jan, 2021, arranged for M.Phil/MS students by Department of Science, College of Home Economics, University of Peshawar.
7. Invited national speaker in 1<sup>st</sup> International Conference on Software Engineering and Computing Disciplines (ICSECD-2019), University of Swabi, on 12<sup>th</sup> November, 2019. The title of the Talk was “Urdu Sentiment Analysis using Lexicon-based approach”.
8. Arranged Workshop in collaboration with Career Development Center, University of Peshawar on “New Digital Media Production and its Scope for the students” on 31<sup>st</sup> October, 2019.
9. Supervised students as incharge for participation in “Science Journalism Society of Pakistan (SJSP) Science Expo 2019” on 14<sup>th</sup> March, 2019.
10. Co-organized Mega Home Science Event, 2019, College of Home Economics, University of Peshawar on 24<sup>th</sup> January, 2019.
11. Organized Workshop on “Computer based software applications in research”, the Second Workshop of “Modern Computer Technologies: Their Applications” at College of Home Economics, University of Peshawar, on 21<sup>st</sup> December, 2017.
12. Organized Workshop on “Modern Computer Technology: Its Hardware and Software”, the first Workshop of “Modern Computer Technologies: Their Applications” at College of Home Economics, University of Peshawar, on 29<sup>th</sup> November, 2017.
13. Arranged Lecture on “Latex” at College of Home Economics, University of Peshawar, on 12<sup>th</sup> October 2015.
14. Organized workshop on “Referencing with End Note” and “Plagiarism” at College of Home Economics, University of Peshawar, on 26<sup>th</sup> November, 2013.

### **Trainings**

1. Resource person at “School teachers training course”, held at College of Home

Economics, University of Peshawar, on 15<sup>th</sup> June, 2007.

2. Completed two months training course on “E Commerce”, at Brains Post Graduate College of Information Technology Peshawar, from 22<sup>nd</sup> July to 22<sup>nd</sup> August, 2001.
3. Completed one week training course in Computer Science at Department of Computer Science, University of Peshawar, organized by University Grants Commission from 26<sup>th</sup> Feb to 3<sup>rd</sup> March 2001.

#### **Examiner Thesis Evaluation/Viva**

1. MS Computer Science, University of Swabi.
2. MS Computer Science, University of Peshawar
3. M.Sc Computer Science, University of Peshawar.
4. BS Computer Science, University of Peshawar.

#### **Working as technical committee member (reviewer)**

1. Artificial Intelligence Review.
2. Transactions on Asian and Low-Resource Language Information Processing.
3. Language Resources and Evaluation.
4. Expert System.
5. CMC-Computers, Materials & Continua
6. Natural Language Engineering

#### **Administrative experience**

1. Head, Department of Computer studies, College of Home Economics.
2. Member of the HEC funded project under the title “Establishment of Computer Based Learning Laboratories at College of Home Economics”, University of Peshawar, 2002-2003.
3. BS Coordinator (Home Economics, Interior Design, Fashion Design, Human Nutrition & Dietetics, Public Health) from September 2024 till date.
4. Member, University purchase committee for Up gradation of computers & purchase of equipments for College of Home Economics, University of Peshawar, 2017-2018.
5. Member Research committee, College of Home Economics, University of Peshawar, 2017-2018.
6. In charge, admissions, F.Sc from 2013-2017

7. In charge, admissions, M.Sc from 2011-2012
8. Overall in charge F.A/F.Sc admission, 2018-2019
9. In charge Prospectus from 2013-2024.
10. In charge Physical verification from 2012-2017, 2024

### **References**

Prof. Dr. Mohammad Abid Khan  
Department of Computer Science  
City University Peshawar.

Prof.Dr. Sara Shahzad  
Department of Computer Science  
University of Peshawar.