

Name: Engr. Soonh Taj



Address: A-54 Al Mustafa Town Phase 2, Main Wadhu Wah Road, Qasimabad, Hyderabad, Sindh, Pakistan.

Mobile No: (+92) 3163171523 **WhatsApp Messenger:** (+92) 3163171523

Mail engr.soonhtaj@gmail.com

LinkedIn www.linkedin.com/in/engr-soonh-taj

Gender Female | **Date of birth** 8 Nov 1994 | **Nationality** Pakistani

ABOUT ME

Hardworking and self-motivated professional with an M.E. in Software Engineering and currently pursuing a PhD in Computer Science at Sukkur IBA University. Currently serving as a Lecturer in the Software Engineering Department at Mehran University of Engineering & Technology (MUET), Jamshoro. With nearly 7 years of teaching experience, I have developed strong expertise in Software Engineering and emerging technologies. My research interests include Artificial Intelligence, Machine Learning, and Natural Language Processing. I am an effective team player with strong communication and interpersonal skills, and I am actively seeking research collaborations and academic partnerships.

WORK EXPERIENCE

[2025- Current]

Lecturer (BPS-18)

- Mehran University of Engineering and Technology, Jamshoro

[2023]

Research Exchange NTNU Alumna

- NTNU Gjøvik, Norway

[2022 Spring – 2024 Spring]

Visiting Faculty

- STHP , Foundation Semester Program Sukkur IBA University
- Regular Program BS - CS, Department of CS, Sukkur IBA University

[06 Jan 2020 – 09 Jan 2022]

Lecturer (on Contract)

Department of SWE, MUET SZAB Campus Khairpur Mir's

[01 April 2019 – 05 Jan 2020]

Research Associate

Department of SWE, MUET SZAB Campus Khairpur Mir's

EDUCATION

[2022-Current Degree]

PhD (Computer Science)

Sukkur IBA University, Address: Sukkur, Pakistan

[2018-2020] Master of Engineering (Software Engineering)

Mehran UET, Address: Jamshoro, Pakistan

[2014-2017] Bachelor of Engineering (Software Engineering)

Mehran UET, Address: Jamshoro, Pakistan

[2011-2013] Intermediate (Pre-Engineering)

B.I.S.E Hyderabad, Address: Hyderabad, Pakistan

[2009-2010] Matriculation (Science)

B.I.S.E Hyderabad, Address: Hyderabad, Pakistan

PUBLICATIONS**[2025] Aspect-Based Sentiment Analysis for Software Requirements Elicitation using Fine-tuned Bidirectional Encoder Representations from Transformers and Explainable Artificial Intelligence**

<https://doi.org/10.1016/j.engappai.2025.110632>

Taj, S., Daudpota, S. M., Imran, A. S., & Kastrati, Z. (2025). Aspect-based sentiment analysis for software requirements elicitation using fine-tuned Bidirectional Encoder Representations from Transformers and Explainable Artificial Intelligence. *Engineering Applications of Artificial Intelligence*, 151, 110632.

[2023] IoT-based Supply Chain Management: A Systematic Literature Review

<https://www.sciencedirect.com/science/article/pii/S2542660523003050>

Taj, S., Imran, A.S., Kastrati, Z., Daudpota, S.M., Memon, R.A. and Ahmed, J., 2023. IoT-based supply chain management: A systematic literature review. *Internet of Things*, 24, p.100982.

[2023] Urdu Speech Emotion Recognition: A systematic Literature Review

<https://dl.acm.org/doi/10.1145/3595377>

Taj, S., Mujtaba, G., Daudpota, S.M. and Mughal, M.H., 2023. Urdu Speech Emotion Recognition: A systematic Literature Review. *ACM Transactions on Asian and Low-Resource Language Information Processing*.

[2023] Urdu Speech Emotion Recognition using Speech Spectral Features and Deep Learning Techniques

<https://ieeexplore.ieee.org/document/10099289>

Taj, S., Shaikh, G.M. and Hassan, S., 2023, March. Urdu Speech Emotion Recognition using Speech Spectral Features and Deep Learning Techniques. In *2023 4th International Conference on Computing, Mathematics and Engineering Technologies (iCoMET)* (pp. 1-6). IEEE.

[2019] To Apply Data Mining for the Classification of Crowd sourced Software Requirements

<https://dl.acm.org/doi/10.1145/3328833.3328837>

Taj, S., Arain, Q., Memon, I. and Zubedi, A., 2019, April. To apply data mining for

classification of crowd sourced software requirements. In *Proceedings of the 2019 8th International Conference on Software and Information Engineering* (pp. 42-46).

[2019] Product Usability Evaluation: A Machine Learning Approach

https://www.researchgate.net/publication/332343638_Product_Usability_Evaluation_A_Machine_Learning_Approach

Taj, S., Mahoto, N.A. and Farrah, I., 2019. Product usability evaluation: A machine learning approach [Conference presentation]. In *1st International Conference on Computational Sciences and Technologies, Jamshoro and Hyderabad, Pakistan*.

[2019] Sentiment Analysis of News Articles: A Lexicon based Approach

<https://ieeexplore.ieee.org/document/8673428>

Taj, S., Shaikh, B.B. and Meghji, A.F., 2019, January. Sentiment analysis of news articles: A lexicon based approach. In *2019 2nd International Conference on Computing, Mathematics and Engineering Technologies (iCoMET)* (pp. 1-5). IEEE.

PROJECTS

PhD Thesis Project

Title: DECODE-LLM: A Graph Neural Network (GNN) Based eXplainable Artificial Intelligence (XAI) Model for the Explainability of Large Language Models

Abstract: Explainable Artificial Intelligence (XAI) is a new growing area of research that consists of several XAI methods that can be used to uncover the “Black-Box” nature of LLMs by providing mechanisms to high light important features that provide insights on LLMs internal architecture and decision-making capability. Current XAI methods, such as LIME (Local Interpretable Model-agnostic Explanations), SHAP (SHapley Additive exPlanations) and attention visualization, are primarily post-hoc and concentrate on evaluating model outputs after decisions have been made. However, these methods fail to provide an intrinsic explanation that reflects the decision-making process of the model. Furthermore, these methods are susceptible to adversarial attacks, which modify the input data to produce inaccurate or misleading explanations that do not accurately represent the underlying processes that lead to these decisions. Despite the increasing demand for explainability in LLMs, the existing literature provides limited XAI methods that are specifically tailored for LLMs explainability. Only a few studies have explored how GNNs can boost LLM reasoning power; however, these studies have not examined how integrating GNNs and LLMs can result in semantically rich intrinsic graph-based and narrative explanations. This study proposes a new approach to explaining the LLMs decision-making process. The proposed model is specifically tailored to explain the decision-making process of LLMs, aiming to develop “DECODE-LLM”, a model based on the backbone of a Graph Neural Network (GNN) architecture. The GNN architecture can effectively represent text data in graph structures, which can help better understand the complex syntactic and semantic structures of LLMs and address the inherent Black-Box nature of LLMs by providing a structured view of how different elements interact within a graph format. Additionally, the joint use of LLMs to convert those graph-based explanations to easily understandable textual narratives makes the decision-making process transparent and trustworthy.

M.E Thesis Project

Title: Product Usability Evaluation: A Machine Learning Approach

Abstract: The modern technological era has made it more convenient and preferable way to buy products online (i.e., online shopping). Customers usually make their minds in buying products having higher reviews and ratings. Products reviews and ratings may

either be positive or negative, which eventually affect product sale. Generally, customers may not be interested in buying product having low rating; whilst, the products with high rating and positive reviews are more likely the first choice of the customers. This research study aims at utilization of machine learning methods for computing product usability evaluation. The research activities are carried out to automatically classify the product reviews based on their subjectivity, which later on help in measuring product usability evaluation. A benchmark dataset of mobile phone product reviews has been used for experimental purposes to validate the applicability of the underlying study. The results represented potential usefulness and efficiency of the approach to measure product usability evaluation.

PROFESSIONAL MEMBERSHIP

PEC Registered Engineer (RE), Reg No: **COMP/18250**

ACADEMIC ACTIVITIES

Teaching Undergraduate Subjects

- Software Project Management
- Software Construction and Development
- Database Management System
- Introduction to Computing and Programming
- Artificial Intelligence Concepts and Techniques
- Cloud Computing

Supervised Undergraduate Thesis/Projects

- Tibi Care Portal App (2020)
- Jarvis Home App (2021)
- Ischolar (2025)
- SAMBARA: An AI-Driven Tour Guide To Enhance Tourism in Sindh (2025)
- ChicFemme: An AI-Driven Style Advisor (2025)

PROFESSIONAL ACTIVITIES

CPD Workshops	Organizer	Facilitator/ Mentor	Venue	Date
1. ARTIFICIAL INTELLIGENCE: Implications for Technologies & Business Strategy	PEC	Dr. Irfan Zafar	Webinar	06 April 2023
2. Digital Transformation	PEC	Prof. Dr. Zulfiqar Ali Memon	Webinar	17 Mar 2023
3. Personal Branding and Career choices for Engineers	PEC	Engr. Shaela Safwan	Webinar	05 July 2022
4. How to Start & Grow a Business (An introduction to PNIP Investment Readiness Program) (0.5 CPD Point)	PEC	Omer Jawed Ghani - Founder & CEO - Trioca Ventures	Webinar	29 June 2021

5. 5G Network Architecture & Features High Level Perspective (0.5 CPD Point)	PEC	Dr. Tang Jung, Low	Webinar	23 June 2021
6. Be your own BOSS by AMAZON (0.5 CPD Point)	PEC	Muhammad Asim Baig Kamran Khurshid	Webinar	18 June 2021
7. Indigenous Entrepreneurship Characteristics, Cases and Stories (0.5 CPD Point)	PEC	Prof. Dr. Arabella Bhutto, Prof. Dr. Zeeshan Khatri, Dr. Muhammad Sabieh Anwar, Ms. Sadia Junejo, Mr. Ali Murtaza Solangi	Webinar	12 June 2021
8. Awareness on PEC Initiative on Innovation and Entrepreneurship (0.5 CPD Point)	PEC	Engr. Brig.(R) Tariq Javed	Webinar	11 June 2021
9. Blockchain For Integrity of Supply Chains (0.5 CPD Point)	PEC	Engr. Dr. Manzoor Ahmed Hashmani (University Technology PETRONAS, Malaysia)	Webinar	10 June 2021
10. Massive Connectivity in 5G+ Networks for Smart Cities (0.5 CPD Point)	PEC	Engr Prof Dr Waleed Ejaz CANADA and ACM USA distinguished speaker	Webinar	01 June 2021
11. Self-Discovery With Talent Management Achieving Excellence in Your Professional Career (0.5 CPD Point)	PEC	Engr. Prof. Dr. Bhawani Shankar Chowdhry	Webinar	7 May 2021
12. Young Engineers as Future Consultant (0.5 CPD Point)	PEC	Prof. Tahir Mahmood Chaudhry	Webinar	5 May 2021

Trainings	Organizer	Venue	Date
1. Two Days Training Workshop on "Outcome-Based Education"	Sukkur IBA University	Sukkur IBA University, Sukkur	19 th and 20 th September 2024
2. Advanced School on Applied Machine Learning	Abdus Salam International Centre for Theoretical Physics (ICTP).	Trieste, Italy	27 May 2024 to 1 st June 2024
3. Outcome-based Engineering Education Training	NPU-FEIAP "Belt & Road" Engineering Education Training Centre (NFTC)	Online Zoom Meeting	11 June 2021
4. Virtual Training on Microsoft Power Bi	HEC & Microsoft	Online MS Teams Meeting	30 April 2021
5. How WordPress can Change the Life Training	Computer Science Students Society (SALU-CS3)	CS Dept: Shah Abdul Latif University, Khairpur	31 Oct 2019
6. Training on Outcome-Based Education	QEC MUET, S.Z.A.B Campus	MUET, S.Z.A.B Campus	5 August 2019

Seminars/ Workshops	Organizer	Facilitator/ Mentor	Venue	Date
1. Building Your Researcher Profile Workshop	Education and Research Desk	Dr. Aida Mustapha (UTHM)	Online	03 Feb 2024
2. Art of Storytelling	Education and Research Desk	Yousuf Efti	Online	17 Jan 2024
3. Promoting Research Excellence in Academics across Pakistan	Researcher Academy	Vishal Gupta, Dr. W Mahmood, Dr. N Hasan, Dr. M Jahangir and Dr. S Narula	Online	02 Feb 2022
4. Free Disciplined Agile Masterclass- Disciplined Agile SCRUM Master (DA Fundamentals)	Prudential Enterprise Learning & PM Training School, New Zealand (PM-ATP)	Fiaz Rasool PhD, PMP	Webinar	13 Nov 2021
5. Agile Product Development Using SCRUM	Prudential Enterprise Learning & Pakistan Software Houses Association (P@SHA)	Khurrum R. Ghor, CEO Prudential Solutions.	Webinar	22 Oct 2021

6. Industry-Academia Engagement Workshop Together We Can!	IEEE Karachi & SZAB, MUET, Khairpur	Industry Experts	MUET, S.Z.A.B Campus	20 Oct 2021
7. Event-Driven Serverless Architecture on GCP (Google Cloud Platform)	Royal Cyber	Engr. Sumair Baloch Cloud Enterprise Architect at Royal Cyber Inc, Nikhil John -Chief Growth Officer at Royal Cyber Inc	Webinar	28 July 2021
8. Opportunities For Women In Tech – Career And Education	Women in Engineering (WIE), IEEE Karachi Section	Engr. Rabia Naz	Webinar	16 Oct 2020
9. Technical Seminar on Cyber Security, Mean Stack Development, Automotive Engineering in Germany.	IEEE Karachi Section	Engr. Sumair Baloch	Makhdoom Daud Hall, MUET Jamshoro	23 Dec 2016

Events	Organizer	Venue	Date
1. MLH Local Hack Day	Microsoft	IBA Institute of Emerging Technologies, Khairpur Mir's	11 April 2020
2. DICE VIC-2019 (Business Innovation Competition)	Sukkur IBA University	Sukkur IBA University	27 Sep 2019
3. Google IO Extended Hyderabad	GOOGLE, Techno Summit & TECH Pakistan.	Sari Banquet Hyderabad	07 July 2019

Conferences	Organizer	Participation As	Venue	Date
1. INCCST'19 (1 st International Conference on Computational Science and Technologies)	MUET Jamshoro	Author	MUET Jamshoro	10-12 April 2019
2. iCoMET'19 (2 nd International Conference on Computing, Mathematics and Engineering Technologies)	Sukkur IBA University	Author	Sukkur IBA University	30-31 Jan 2019
3. iCoMET'23 (4 th International Conference on Computing, Mathematics and Engineering Technologies)	Sukkur IBA University	Author	Sukkur IBA University	17-18 Mar 2023

PERSONAL SKILLS

Language(s) English, Urdu, Sindhi

Communication skills

- Active Listening
- Clear Written and Verbal Communication Skills

Interpersonal skills

- Have good multi-tasking skills including ability to prioritize work.
- Like to perform duties with hard work, concentration, and high level of accuracy.
- Excellent learning abilities and can easily adjust to dynamic working environments.
- Effective planning, organizing and decision-making abilities.
- Punctual, Valuable Team Player and Leadership skills.

Computer & Programming skills

- Suite Office (Excel, Word, Ppt)
- Good familiarity with MATLAB, Simulink
- Object Oriented Programming (Java)
- Web Programming: HTML, CSS, JavaScript (front-end), PHP/MySQL (back-end)
- Data Science (Python)
- Database (MySQL/phpMyAdmin, SQL Server)
- Android Development
- UML - basics
- Cloud (Azure, AWS)
- Good command on QOBE software.

REFERENCES

PhD. Supervisor**Prof. Dr. Sher Muhammad Doudpota**

Phone number: (+92) 331 2791151

Email: sher@iba-suk.edu.pk**M.E Supervisor****Dr. Naeem Ahmed Mahoto**

Phone number: (+92) 333 7538991

Email: naeemmahoto@gmail.com