SANA FATIMA
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PART 1: EXECUTIVE SUMMARY

SUMMARY OF ACADEMIC ACTIVITIES

NED University of Eng. & Tech , PK.,	Lecturer	Dec 2018 to date
Aligarh Institute of Tech, PK	Instructor	Nov 2012 to Nov 2012
Mian Institute of Tech , PK.	Instructor	Jan 2012 – Oct 2012

Teaching Conductance	Nos.
Different Online undergraduate courses taught	02
Different Face-to-Face undergraduate courses taught	10+
Academic Supervision	
Undergraduate FYP Research Projects Supervised	10+
Undergraduate semester projects Supervised	20+

SUMMARY OF RESEARCH

Refereed Journal Papers	4
Refereed Conference Proceedings Papers	4

PART 2: CAREER HIGHLIGHTS

Sana Fatima has a MS. degree from NED University of Engineering & Technology, Pakistan with specialization in Computer Science & Information Technology Pakistan, and a BE degree in Computer & Information System Engineering from NED University of Eng. & Technology Pakistan. Her ***Professional Education*** summary is as below:

MS	Computer Science & Information Technology Pakistan	2017
B.E.	Computer & Information System Engineering	2010

Sana Fatima has over 10+ years of teaching experience.

A summary of Sana Fatima's ***Career Appointments*** is as below:

Dec 2018 – Present	Lecturer , Department of Software Engineering, NEDUET, Pakistan
Nov 2012 – Nov 2018	Instructor, Dept. of Computer Information Technology, AIT, Pakistan
Jan 2012 – Oct 2012	Instructor, Mian Institute of Science Mgt. & Tech. Pakistan

Sana Fatima's ***current job responsibilities*** at Dep. Of Software Engineering, NEDUET include:

- Teaching undergraduate courses
- Supervised Final Year projects
- Student advisor

.***At Aligarh Institute of Technology***, Fatima remained engaged for 6+ years and conducted courses including, Microprocessor Architecture & Assembly programming, Fundamental of computer programming, Object Oriented programming, Introduction to Computer Applications. She supervised various Final Year Projects at the department of computer & Information Technology. She also played an active role as a member with career counseling team.

Prior to joining Aligarh Institute of Technology, Sana Fatima was serving as Instructor at the Mian Institute of Science management & Technology (MISMT) Karachi, Pakistan. Sana Fatima remained associated with as a faculty between Jan 2012 to Oct 2012.

Fatima's proven ***Areas of Expertise*** include:

- Software Quality Engineering
- Software Design Architecture
- Data Structures & Algorithms
- Software Construction &Development
- Object Oriented Programming
- Computer Vision Fundamentals
- Introduction of Computer Application Software

Some of Fatima's proven ***Software Expertise*** include:

Software	**Remarks**
Google Colabs	*Worked on various open CV /Machine learning libraries to developed ML based solution.*
Microsoft Project	*Worked for project planning, and scheduling.*
Python	*Worked on various software projects claims Analysis.*
Anaconda /Mini Conda	*Worked on various industrial projects requires intelligent machine predicted solution.*
Star UML	*Worked manage and visualize low level design of various software projects.*
C- Language	*Worked on developing various software projects including management systems, games, etc.*
Postman	*Worked to validate various APIs.*
Katalon Studio	*Worked to Validate /Test many software projects including web based projects, desktop applications & APIs validations.*
TRELLO	*Worked on various projects for centralized communication and project management.*
Selenium IDE	*Worked to Validate /Test many web based software applications*
C++ Compiler	*Worked to developed many software projects including management systems, games, etc.*
MS -Office	*Worked to write and manage many technical documents / presentations/ excel sheets*
Arduino & Keil	*Worked to programmed microcontrollers for Embedded systems.*

Few of Fatima's major ***industry contributions*** include:

- Smart Surveillance System for Khaadi-clothing brand ,Pakistan
- Service Request Portal developed for Pakistan Oxygen
- Data Yard: Comprehensive security solution for "Eight sheds Media

Few of her major ***research contribution domains*** include:

- Machine learning algorithms for software automation
- Natural Language processing
- Software Quality
- Machine Leaning algorithms for data security

- Programming tools for memory management

PART 3: SNAPSHOTS FROM PROFESSIONAL CONTRIBUTIONS AT NED

SELECTED UNIVERSITY TEACHING

Few **Undergraduate** taught (at NED): Software Quality Engineering, Object Oriented Programming, Computer Vision Fundamentals, Software Design Architecture, Computer Architecture & Assembly Programming, Logic Design & Switching Theory, And Data Structure & Algorithms.

SELECTED CORPORATE TRAININGS ATTENDED AT NED

Time & stress management, Effective ways of Course Design ,Technical writing & Research Menu Script, Presentations skills, Faculty Development Program, Online Evaluation & Assessment Methods.

SELECTED TRAININGS CONDUCTED AT NED

1. One day workshop on "Etsy: Digital E-Commerce Platform" organized by Ms. Sana Fatima, on 29th April, 2025.
2. Two days' workshop on "Full Stack Development" organized by Ms. Sana Fatima, on 8th and 15th December, 2023.
3. One day Workshop on" Introduction to Block chain" organized by Ms. Sana Fatima, on 15th & 22nd December, 2023.
4. One day workshop on "Android Development" organized by Ms. Sana Fatima, on 9th June ,2023
5. SQA workshop on "An interactive SQA Training by industry Expert" organized by Ms. Sana Fatima, on 31th May, 2023
6. One day workshop on " Hands on practice on Git-Hub" organized by Ms. Sana Fatima, on 18th January ,2022
7. One day workshop on "Deep Learning" organized by Ms. Sana Fatima, on 20th December, 2021

SELECTED UNDERGRADUATE RESEARCH PROJECTS SUPERVISED

- **AIvers**: AI Verse is developed to revolutionize the landscape of AI model exchange. It serves as a centralized hub where AI developers can showcase their models, businesses can access. AI solutions, and individuals can discover AI models to address personal or niche requirements. 2023-24
- **EnergiSync:** Smart ERP for Sustainable Power Management; endeavors to revolutionize energy monitoring and optimization for businesses, particularly retail establishments. By amalgamating cutting-edge technology with sustainable practices, EnergiSync aims to empower businesses with actionable insights to enhance operational efficiency and reduce costs. 2023-24
- **Advancing Radiogenomics: AI-Enabled Glioblastoma Subtype Prediction**; This research-based initiative uses radiogenomics to transform the way glioblastoma, an aggressive and frequently deadly brain tumor, is diagnosed and treated. The current approach of genetic analysis by invasive surgery is time-consuming and invasive, and patients with glioblastoma have a poor prognosis with low survival rates. The goal of this project is to use MRI scans and 3D imaging techniques to predict the genetic subtype of glioblastoma by utilizing artificial intelligence. The lives and prognoses of people battling this deadly form of brain cancer may be improved if this project is successful in lowering the need for procedures and enabling more individualized, minimally invasive treatment techniques. 2023-24
- **Data Yard:** Comprehensive security solution for "Eight sheds Media" used to keep tracks of malicious attempt on a website made by an authorized user, 2022-23.
- **Smart Surveillance System** for Khaadi-clothing brand: it's a computer vision based smart surveillance system

which is design to reduce fraudulent activities happens in the store .the system uses AI models to monitor and track suspicious activities as well as footfall data analysis to make smart decisions. 2021-22

- **Service Request Portal** developed for Pakistan Oxygen, the developed system reduces the manual work and financial burden on individual employee by generating automatic requests which eliminates the need for SAP to purchase license and allow user to create form in the system and hence it reduces the development cost. 2021-22

SELECTED PUBLICATIONS

1. Fatima, S., Hussain, A. ., Amir, S. B., Ahmed, S. H., & Aslam, S. M. H. (2023). XGBoost and Random Forest Algorithms: An in Depth Analysis. Pakistan Journal of Scientific Research, 3(1), 26–31. https://doi.org/10.57041/pjosr.v3i1.946

2. Fatima S, Nasim F,Najmi G.H, Rasheed M& Akram Z,(2023), "Comparative Study of Software Automation Tools: Selenium and Quick Test Professional (QTP)", Journal of Independent Studies and Research Computing , ISSN (P):2412-0448, ISSN (E):1998-4154, DOI: 10.31645/JISRC.23.21.1.6
3. Sana Fatima, Zainab Fatima, Muhammad Abdullah Hayat, Muhammad Hamza Shahab, Muhammad Khurram Meraj, Rana M. Ibrahim, & Syed Muhammad Muneeb. (2022). Impact of Software Metrics on Software Quality using McCall Quality Model: In-Depth Analysis. University of Sindh Journal of Information and Communication Technology , 6(2), 66-76. Retrieved from https://sujo.usindh.edu.pk/index.php/USJICT/article/view/6273
4. Naseem, Muhammad & Zia, Syed & Khan, M. & Fatima, Sana & IdrisMala, & Das, Bhagwan. (2018). A Survey on Sentiment Analysis, Classification and Applications. International Journal of Pure and Applied Mathematics. 119.
5. Sana Fatima, Tanazzah Rehman,Muskan Fatima, Shahmeer Khan & Mir Arshan Ali, Comparative Analysis of AES and RSA Algorithms for Data Security in Cloud Computing, Presented at the 7th International Electrical Engineering Conference, Karachi, Pakistan, Eng. Proc. 2022, 20(1), 14; https://doi.org/10.3390/engproc2022020014
6. Sana Fatima,Bisma Mansoor,Laiba Ovais, Sajjad Ali Sadurddin & Syed Aun Hashmi, Automated Testing with Machine Learning Frameworks: A Critical Analysis, Presented at the 7th International Electrical Engineering Conference, Karachi, Pakistan, Eng. Proc. 2022, 20(1), 12; https://doi.org/10.3390/engproc2022020012
7. Sana Fatima , Syeda Faiza , Farzeen Zehra , Darakhshan , Maha Javed and Maria Pasha, Comparative Analysis of C++ and Python in Terms of Memory and Time, 1st International Conference on Engineering and Applied Natural Sciences, May 10-13, 2022, Konya, Turkey
8. 4. Sana Fatima Faryal Habib Mahnoor Fatima Maham Arshad Manzaib Gul Bisma Jamal, INTERPRETATION OF DATA STRUCTURES AND ALGORITHMS USING WILLOW: INDEPTH ANALYSIS, 8th INTERNATIONAL SCIENTIFIC RESEARCHES CONFERENCE,April 15-17, 2022Adana, Turkiye

SELECTED NATIONAL LEVEL PROFESSIONAL GROUPS

Member of Pakistan Engineering Council. Registration Number: COMP/10437

PERSONAL

Marital Status: Married; Activities: Reading, Traveling.