(Dr. Shweta Dwivedi)
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Google Scholar | orchid | Scopus

PROFILE

Profile Summary:

Objective:

To work with an organization where I can gain diverse professional exposure and contribute to its growth through the knowledge and skills I have acquired.

Teaching Experience (15 Years)

PhD from Maharishi University of Information Technology, Lucknow **2020**
Topic: Modeling and Minimization of Test Suites on Object-Oriented Fuzzy Database

- **Assistant Professor**, Department of Computer Application, Integral University, Lucknow, Uttar Pradesh, India (2024–Present)
- **Assistant Professor**, Department of Information Technology, IISE College, Lucknow (Affiliated with the University of Lucknow), Uttar Pradesh, India (2022–2024)
- **Guest Faculty**, Department of Computer Science and Engineering, Ambkeshwar Group of Institute, Lucknow, Uttar Pradesh, India (May–June 2022)
- **Assistant Professor**, Department of Computer Science and Engineering, Maharishi University of Information Technology, Lucknow, Uttar Pradesh, India (Nov 2014–Jan 2022)
- **Part-Time Guest Lecturer**, Indira Gandhi National Open University, Lucknow, Uttar Pradesh, India
- **Lecturer**, SMPS (Samarpan Institute of Nursing and Paramedical Sciences), Lucknow, Uttar Pradesh, India (2011–2014)

RESEARCH INTEREST:
- Healthcare Decision Support Systems (HDSS).
- Hybrid Evolutionary Algorithms (HEA) and Fuzzy Sets in Optimization.
- Machine Learning and Predictive Modeling in Cardiovascular Disease.
- Deep learning techniques for Adversarial Defense Mechanisms.
- Software-defined networks (SDN) and Cybersecurity (DDoS attack classification).
- Internet of Things (IoT) and Smart City Architectures.

SUMMARY OF RESEARCH ACCOMPLISHMENT:

- Test suite optimization is an effective method that is used to minimize or reduce the time and cost of

testing. There are several researchers and software professionals have used this method or techniques to enhance the correctness and effectiveness of test suites/cases. These approaches optimize test suites for a single objective but fuzzy logic with certain algorithms is used to optimize the test cases/suites for multi-objective selection processes. Therefore, in the present work, an approach of optimization or minimization of test suites is proposed for the designed fuzzy object-oriented database and also an applied approach to reduce the complexity of the designed database. The main objective of our approach is to minimize and find the test suite that is best optimal for multi-objective testing.

- Developed a heart disease prediction model using Logistic Regression and advanced ensemble techniques like XGBoost and CatBoost with 95% accuracy.
- Integrated Hybrid Evolutionary Algorithms and Fuzzy Logic for improved decision-making in Healthcare Decision Support Systems.
- Conducted a comprehensive study on DDoS attack classification using the CICIDS 2024 dataset for SDN environments.
- Evaluated adversarial defence mechanisms in deep learning with CIFAR-10 and MNIST datasets, leading to robust models with improved security features
- Presented findings at various international conferences and published multiple papers in high-impact journals.

PROFESSIONAL MEMBERSHIP:
- Member, International Association of Engineers (IAENG)

COURSE TAUGHT:

- Data Structure Using C
- Java programming.
- Design Algorithm and analysis.
- Dot Net & C#
- PHP
- Python with Machine Learning
- Cloud Computing
- Web Technology
- Soft Computing
- AI
- DBMS
- Fuzzy Database

ADMINISTRATIVE/DEPARTMENTAL RESPONSIBILITY

- Convener of Career and Professional Development Committee.
- Members of Innovative Teaching, Learning & Research Committee.
- Members of Women Grievance Redressal Cell.
- Convener of Media & Editorial.
- Members of International Conference ICASET(2024-25)

STUDENTS SUPERVISION

BCA Final Year Project.
MCA Final Year Projects.

PUBLISHED/GRANT PATENTS

- **"Automatic Intelligent Detection of Cancer Using Machine Learning".**
  - **Process   Application No.   202141027587**

- **"An Internet Firewall Processing Through Machine Learning Based System and Method "There Of. Application No. 202111054070**
  - **https://iprsearch.ipindia.gov.in/PatentSearch/PatentSearch/ViewDocuments**
  - **Published.**
- **Certificate of Registration for a UK Design** number: **6354452** Grant date: 17 April 2024 Registration date: 22 March 2024.
- The design is to be applied to "**Biosensor Based Biotech Device to Detect Lung Cancer**". **Process Application No.** 424210-001 Date: 22/07/2024

PUBLISHED/ACCEPTED SCI/SCOPUS RESEARCH PAPERS

- **Shweta Dwivedi "Methodologies for Mining a Block in Blockchain"** International Journal of Emerging Technology and Advanced Engineering Website: www.ijetae.com Certified Journal, Volume 10, Issue 06, June 2020. Welcome::INTERNATIONAL JOURNAL EMERGING OF TECHNOLOGY AND ADVANCED ENGINEERING (IJETAE) **(SCOPUS)**

  [ISSN 2250-2459, ISO 9001:2008]

- **Shweta Dwivedi "Optimization of Complexity in Big Data: The Query Response Time** "International Journal of Advanced Science and Technology Vol. 29, No. 03, (2020), pp. 12611 – 12618, July 2020. (99+) Optimization of Complexity in Big Data: The Query Response Time | DR SHWETA DWIVEDI - Academia.edu. (SCOPUS)

- **Shweta Dwivedi "VALIDATION OF DNAFIDs MODEL THROUGH FINITE STATE MACHINE** "International Journal RT&A, No 3 (63) Volume 16, PP 160-167, September 2021. RTA 3 2021-12.pdf (gnedenko.net) **(SCOPUS).**

✚ PARTICIPATED & PRESENTED IN VARIOUS CONFERENCES/WORKSHOPS & SEMINARS:

- **Fourteen Days** National Workshop on Research Methodology and Skill Development on Innovative Trends & Issues. From MUIT. Lucknow, 2015.
- **Fourteen Days** National Workshop on Career Counseling and Guidance. From MUIT. Lucknow, 2015.

- **Two-Day** National Conference on E-Governance-Changing Paradigm. From MUIT. Lucknow, 2015.
- One Wee Workshop **"EMERGING RESEARCH TRENDS IN COMPUTER SCIENCE" Department of computer science 'BABASAHEB BhimRao AMBEDKAR UNIVERSITY LUCKNOW' (A Central University), 2017.**

- Shweta Dwivedi, **"An Efficient Implementation of Fuzzy Classifications on Object-Oriented Database Over Relational Database."** 2023 3rd International Conference on Technological Advancements in Computational Sciences (ICTACS), Tashkent, Uzbekistan. IEEEXplore November 2023. An Efficient Implementation of Fuzzy Classifications on Object-Oriented Database Over Relational Database | IEEE Conference Publication | IEEE Xplore

- Shweta Dwivedi, **Computation of Big Data Security Through Cross-Layer Technique**5th 2024 IEEE International Conference on Computing, Power and Communication Technologies (IC2PCT). 10 Feb 2024. Computation of Big Data Security through Cross-Layer Techniques | IEEE Conference Publication | IEEE Xplore

- Shweta Dwivedi **Leveraging Machine Learning for Emerging Trends in Information Technology: A Review** International Conferences **on Advances in Science Engineering & Technology(ICASET-2-24)** 30-31 July 2024.

- **Shweta Dwivedi,** "Fuzzy C-Means Clustering in Extended way for Fuzzy Database", Paper Presented at International Seminar on Fuzzy Clustering, Organized by InfoTech-EGICORE-Lucknow, 14-15 May 2016.

- **Shweta Dwivedi,** "Status and Perspectives of Data Mining by Fuzzy Methods", Paper Presented at International Conference on Mining Fuzzy, Organized by BCS-Insilco Biology Lucknow, 29-30 June 2016.

- STTP FDP on Fundamentals of Machine Learning (CU138F). 5 days 11 March 24 to 15 March 24.
- Faculty Development Program NITTTR Chandigarh 5 days 26 Feb 24 to 1 March 24.
- Workshop of "Digital Education for Gen-Z Learners" held on 16 May 2024 at Integral University, Lucknow.
- Participated in a One-day National Workshop on 'Bibliometric Analysis' as a part of a lecture series on 'Research in Social Science, from April to June 2024.

PAPER PUBLISHED IN INTERNATIONAL CONFERENCES

- **Shweta Dwivedi "Shape-Area Model-based Key Management in Wireless Sensor Network"** Published Paper in Recent Advances on Engineering, Technology and Computational Sciences (RAETCS), Feb 2018. **DOI:** 10.1109/RAETCS.2018.8443947. Shape-Area Model-based Key Management in Wireless Sensor Network | IEEE Conference Publication | IEEE Xplore

  [978-1-5386-1686-4/18/ IEEE]

- Shweta Dwivedi, **"An Efficient Implementation of Fuzzy Classifications on Object-Oriented Database over Relational Database."** 2023 3rd International Conference on Technological Advancements in Computational Sciences (ICTACS), Tashkent, Uzbekistan. IEEEXplore November 2023.
  https://ieeexplore.ieee.org/search/searchresult.jsp?newsearch=true&queryText=An%20Efficient%20Implementati on%20of%20Fuzzy%20Classifications%20on%20Object-Oriented%20Database%20Over%20Relational%20Database

- Shweta Dwivedi, **Computation of Big Data Security Through Cross-Layer Technique**5th 2024 IEEE International Conference on Computing, Power and Communication Technologies (IC2PCT). 10 Feb 2024.

  https://ieeexplore.ieee.org/search/searchresult.jsp?highlight=true&returnType=SEARCH&matchPubs=true&searc hWithin=Computation%20of%20Big%20Data%20Security%20Through%20Cross-Layer%20Technique&returnFacets=ALL

- Shweta Dwivedi **Leveraging Machine Learning for Emerging Trends in Information Technology: A Review** International Conferences **on Advances in Science Engineering & Technology (ICASET-24) 30-31 July 2024. (**Expected Timeline for Publication/Completion: 2 to 4 months**).**

PUBLISHED NON-SCI-SCOPUS BUT PEER-REVIEWED RESEARCH PAPERS

- **Shweta Dwivedi**, Santosh Kumar **(2016).** "**Object-Oriented Fuzzy Database Representation through UML**", International Journal of Computer Applications Foundation of Computer Scienc*e* (FCS), *[IJCA]* NY, USA, Volume 147, Issue 6, August 2016, pp.16-21. Object-Oriented Fuzzy Database Representation through UML (ijcaonline.org)

  [ISBN: 973-93-80894-01-7**]**

- **Shweta Dwivedi,** Santosh Kumar (2017)" **Query Processing and Interlinking of Fuzzy Object-Oriented Database"** *American Journal of Engineering Research (AJER), USA,* Volume-6, Issue-1, Jan 2017, pp-365-373. G06023641.pdf (ajer.org)

  [E-ISSN: 2320-0847 P-ISSN: 2320-0936]

- **Shweta Dwivedi,** Santosh Kumar (2017)" **Data Cube Representation for Patient Diagnosis System Using Fuzzy Object-Oriented Database"** TMLAI Transactions on Machine Learning and Artificial Intelligence, UK, Volume 5, Issue 1, Feb 2017, pp.64-70 View of Data Cube Representation for patient Diagnosis System

Using Fuzzy Object-Oriented Database (scholarpublishing.org)

(UGC CARE)[ISSN: 2054-7390]

- **Shweta Dwivedi,** Santosh Kumar (2018)" **Minimization of test Suites for Fuzzy Object-Oriented Database**" International Journal of Computer Applications Foundation of Computer Science (FCS), [IJCA] NY, USA. Volume 179 – No.43, May 2018, pp10-15. Minimization of Test Suites for Fuzzy Object-Oriented Database (ijcaonline.org)

- **Shweta Dwivedi "HYBRID CLASSIFICATION APPROACH FOR SOFTWARE DEFECT PREDICTION WITH FEATURE REDUCTION AND CLUSTERING.** "International Journal of Research in Electronics and Computer Engineering (IJRECE)". Vol. 9. Issue 4 October-December, 2021.

- **Shweta Dwivedi "HYBRID TECHNIQUE FOR EFFORT ESTIMATION OF SOFTWARE'S.** "International Journal of Research in Electronics and Computer Engineering (IJRECE)". Vol. 9. Issue 4 October-December, 2021.

- **Shweta Dwivedi "MONITORING AND CONTROL SYSTEM FOR ENERGY MANAGEMENT USING INTERNET OF THINGS.** "International Journal of Research in Applied Science &Engineering Technology (IJRASET)". Vol. 10. Issue 5 May, 2022. (UGC CARE) May 2022|Issue V | Best Journals (ijraset.com)

- **Shweta Dwivedi "HOSPITAL MANAGEMENT SYSTEM USING ELLIPTIC CURVE CRYPTOGRAPHY.** "International Journal of Research in Analytical Reviews (IJRAR)". Vol. 8. Issue 4 Dec 2021.

[E-ISSN No: 2348-1260]
[P-ISSN No: 2349-5138]

- **Shweta Dwivedi "An Initialization of Factors for System development in the public cloud"** Juni Khyat Journal Ugc Care Vol. 13. Issue 02 Feb 2023.

[Impact Factor: 6.625   ISSN: 2278-4632].

- **Shweta Dwivedi "Implementation of Tweet Sentiment through Naive Bayes Algorithm"** International Journal of Advances in Engineering and Management (IJAEM) Volume 2, Issue 5, pp: 273-280 www.ijaem.net,2020.

[ISSN: 2395-5252]

- **Shweta Dwivedi "Performance Enhancement of Wireless ad-hoc Network Using TCP/IP Protocols"** Journal of Xidian University (JXU) Volume 14, Issue 10, pp: 138-151 2020.

[ISSN No: 1001-2400]

BOOK CHAPTERS

- Human Impact on Security and Privacy: Network and Human Security, Social Media, and Devices: 9798369392355: Security & Forensics Books | IGI Global (igi-global.com)
- Effective Strategies for Combatting Social Engineering in Cybersecurity: 9798369366653: Security & Forensics Books | IGI Global (igi-global.com).

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