

UDIT DEO

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RESEARCH INTERESTS & SUMMARY

- **Research Interests:** Deep Learning, Optimization for Machine Learning, Computer Vision, and Fuzzy/Soft Computing for Decision Systems
- **Academic Foundation:** Enrolled in Ph.D. in Computer Science and Engineering (IIT Roorkee, 2025; M.Tech in Software Engineering with a GPA of 9.53 (MANIT Bhopal); B.Tech in Computer Science and Engineering with a GPA of 8.21 (SMVDU). Recipient of a merit-based tuition fellowship for academic performance
- **Academic Distinctions:** Qualified highly competitive national-level fellowships/exams - UGC-NET JRF (Computer Science and Applications, Dec 2024) and GATE (CS[2022, 2025] & DA[2025])

EDUCATION

Indian Institute of Technology Roorkee
PhD in Computer Science and Engineering

Roorkee, UK
July 2025 - Present

- **Relevant Coursework:** Essential Mathematics for AI, Concepts of Artificial Intelligence and Machine Learning, Advances in Signal and Image Processing

Maulana Azad National Institute of Technology
MTech in Software Engineering *GPA: 9.53*

Bhopal, MP
Aug 2023 - June 2025

- **Relevant Coursework:** Applied Mathematical Analysis, Machine Learning, Neural Networks and its Applications, Deep Learning, Data Science and Analytics, Data Warehousing and Data Mining, Cloud Computing using IoT, Research Methodology
- **M.Tech Thesis:** *Bridging Fuzziness and Optimization: Frameworks for Relation Inequalities and Multi-Criteria Decision Systems*
Guide: Prof. MMS Beg (ZHCET, AMU) and Dr. JK Jain (MANIT Bhopal)

Shri Mata Vaishno Devi University (GFTI)
BTech in Computer Science and Engineering *GPA: 8.21*

Reasi, J&K
July 2017 - June 2021

- **Relevant Coursework:** Data Structures and Algorithm, Programming Languages, Theory of Computation, Compiler Design, Engineering Mathematics, Discrete Mathematics, Operating System, DBMS, Digital Logic, Computer Networks, Computer Organization and Architecture

CONFERENCES AND PUBLICATIONS

Published / Accepted

- **ICCCNT 2025, IEEE International Conference, IIT Indore, India**
Udit Deo, et al., *"Robust Client-Server Quality Allocation via Ordered Weighted Averaging: A Multi-Objective Optimization Framework"*
Under Publication, forthcoming in IEEE Xplore (Scopus Indexed)
- **ICAIA 2025, Springer International Conference, MSIT Delhi, India**
Udit Deo, et al., *"A New Approach to Fuzzy Relation Inequalities: Effects of Variable Absence and Weighted Composition"*
Under Publication, forthcoming in *Artificial Intelligence and Applications* (zbMATH Indexed)
- **CICTN 2025, IEEE International Conference, ABES Ghaziabad, India**
Udit Deo, et al., *"Advances in Fuzzy Relation Inequalities and Optimization Techniques"*
IEEE Xplore, Scopus Indexed. DOI: 10.1109/CICTN64563.2025.10932336

Communicated / Under Review

- **SN Computer Science (Q2), Springer - Under Review**
Udit Deo, et al., *"Multi-Objective Quality Allocation with OWA in Dynamic Server Networks"*
- **Soft Computing (Q2), Springer - Under Review**
Udit Deo, et al., *"CAST: A Novel Cost-Aware Segmentation Tree for Optimized Temporal Quality Analysis of Fuzzy Systems"*

PATENT

A Device for Producing Electricity Using Roof Air Ventilator

Granted Design Patent (Design No.: 440258-001), IP India, Class 13-01

April 2025

Inventors: Dr. Anand Kumar, Ayush Kumar Agrawal, Uday Deo, **Udit Deo**, Shashank Kumar Soni, Bikramaditya Chakraborty, Basundhara Singhdeo

Demonstrates interdisciplinary innovation, applying optimization principles to sustainable energy systems.

PROFESSIONAL EXPERIENCE

Amdocs Development Center

Associate Software Engineer

Gurugram, HR

July 2021 - June 2023

- Developed automated **Python** tools for **data compatibility and synchronization**, reducing manual effort by up to **90%**
- Designed scalable solutions for **database comparison and merging**, streamlining data consistency across systems

Stackfusion

Machine Learning Intern

Gurugram, HR

May 2020 - July 2020

- Fine-tuned **deep learning models** (MobileNetSSD, ResNet, YOLOv3) via **transfer learning** for vehicle axle and license plate recognition
- Built automated **data preprocessing pipelines** in **Python**, improving dataset quality and diversity for training

TECHNICAL SKILLS

Optimization methods, Model interpretability, Multi-objective learning, LaTeX for scientific writing, PyTorch, Python