UDIT DEO

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RESEARCH & ACADEMIC SNAPSHOT

- **Research Interests**: Computer Vision, Deep Learning, Machine Learning, Soft Computing, Fuzzy Optimization, Decision Systems

- **Academic Foundation**: Currently pursuing Ph.D. in Computer Science and Engineering (IIT Roorkee); M.Tech in Software Engineering with a GPA OF 9.53 (MANIT Bhopal) and B.Tech in Computer Science and Engineering with a GPA of 8.21 (SMVDU), recipient of a merit-based tuition waiver for academic performance

- **National Level Exams**: UGC-NET JRF (Computer Science, Dec 2024; 99.95%ile) and GATE (CS - 2022 & 2025; DA - 2025) qualified, securing positions in the top 3% candidates nationally

EDUCATION

Indian Institute of Technology Roorkee   Roorkee, UK
PhD in Computer Science and Engineering   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   Bhopal, MP
MTech in Software Engineering *GPA: 9.53*   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)   Reasi, J&K
BTech in Computer Science and Engineering *GPA: 8.21*   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

- **Tuition Fellowship**: Ranked 2nd in department (7th semester); awarded tuition waiver for academic excellence

INDUSTRY EXPERIENCE

Amdocs Development Center   Gurugram, HR
Associate Software Engineer   July 2021 - June 2023

- Worked on **billing modules** (BFENV, ODI, Splitter, Archive) using **C/C++** in a **Unix environment**

- Developed an automated **Python tool** for **backward compatibility** of **binary and ASCII files**, reducing manual effort by **90%**

- Designed a **Python-based database comparator & merger tool**, enabling efficient **synchronization** between database instances

- Implemented a **Flask-based Regression Testing Tool**, streamlining **testing processes** and enhancing **collaboration**

- Recognized at Amdocs for excellence in **innovation**, **coding**, **automation**, and **sports competitions**

Stackfusion   Gurugram, HR
Machine Learning Intern   May 2020 - July 2020

- Modified and fine-tuned **deep learning models** (MobileNetSSD, ResNet, YOLOv3) using **transfer learning** for a dataset focused on **vehicle axles and license plates**

- Automated **data preprocessing pipelines** with **Python**, expanding dataset **diversity** and **quality**

CONFERENCES AND PUBLICATIONS

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", *IEEE ICCCNT 2025 (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", *Springer ICAIA 2025 (Under Publication, forthcoming in Algorithms for Intelligent Systems book series, zbMATH Indexed)*

CICTN 2025 IEEE International Conference, ABES Ghaziabad, India
Udit Deo, et al., "Advances in Fuzzy Relation Inequalities and Optimization Techniques", *IEEE CICTN 2025 (IEEE Xplore, Scopus Indexed) DOI:https://doi.org/10.1109/CICTN64563.2025.10932336*

Communicated to SN Computer Science (Q2), Springer
Udit Deo, et al., "Multi-Objective Quality Allocation with OWA in Dynamic Server Networks"

Communicated to Soft Computing (Q2), Springer
Udit Deo, et al., "CAST: A Novel Cost-Aware Segmentation Tree for Optimized Temporal Quality Analysis of Fuzzy Systems"

PATENT

Title: A Device for Producing Electricity Using Roof Air Ventilator
Design No.: 440258-001 — *Granted by IP India under the Designs Act, 2000 (Class 13-01)*
Date of Issue: 07 April 2025
Inventors: Dr. Anand Kumar, Ayush Kumar Agrawal, Uday Deo, **Udit Deo**, Shashank Kumar Soni, Bikramaditya Chakraborty, Basundhara Singhdeo

TECHNICAL SKILLS

- **Languages:** C, C++, Python, Shell
- **Libraries:** PyTorch, TensorFlow, OpenCV
- **Tools:** Git, GDB, Unix/Linux, LaTeX