# Udit Deo

*Focusing on fuzzy optimization, decision systems, and AI deployment*
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## Research Interests

Visual Computing, Computer Vision, Deep Learning, Artificial Intelligence, Soft Computing, Fuzzy Optimization, Decision Systems, and Multi-Criteria Optimization with a focus on interpretable, intelligent, and real-world systems.

## Education

**M.Tech in Software Engineering**, MANIT Bhopal (**INI**) *2023 – 2025*
CGPA: **9.37/10**

**B.Tech in Computer Science and Engineering**, SMVDU (**GFTI**) *2017 – 2021*
CGPA: **8.21/10**

## Competitive Exams

- **UGC-NET (CS)** Qualified twice
  - **Category 1:** JRF + Assistant Professor + Ph.D. Admission with **99.95**%ile (Dec 2024)
  - **Category 2:** Assistant Professor + Ph.D. Admission (June 2024)
- **GATE (CS)** Qualified twice (2022, 2025)
- **GATE (DA)** Qualified (2025)

## Publications

1. **Udit Deo**, Jay Kumar Jain, MMS Beg.
   *Advances in Fuzzy Relation Inequalities and Optimization Techniques*
   CICTN 2025 (IEEE), Indexed in IEEE Xplore, Scopus - **Published**
   DOI: 10.1109/CICTN64563.2025.10932336
2. **Udit Deo**, Jay Kumar Jain, MMS Beg.
   *A New Approach to Fuzzy Relation Inequalities: Effects of Variable Absence and Weighted Composition*
   ICAIA 2025 (Springer AIS Series), Indexed in zbMATH - **Under Publication**
3. **Udit Deo**, Jay Kumar Jain, MMS Beg.
   *Robust Client-Server Quality Allocation via Ordered Weighted Averaging: A Multi-Objective Optimization Framework*
   ICCCNT 2025 (IEEE), Indexed in IEEE Xplore, Scopus - **Accepted, To Appear**

## 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

## Professional Experience

**Associate Software Engineer**, Amdocs, Gurugram *Jul 2021 – Jun 2023*

- Developed tools in **C/C++ and Python** for billing modules (BFENV, ODI, Splitter, Archive) in Unix.
- Created Python-based backward compatibility checker - reduced manual effort by **90%**.
- Built a database comparator and merger utility; designed a Flask-based regression testing system.
- Recognized for innovation, coding quality, and contributions to process optimization and internal events.

**Machine Learning Intern**, Stackfusion, Gurugram *May 2020 – Jul 2020*

- Fine-tuned deep learning models (**YOLOv3, ResNet, MobileNetSSD**) using transfer learning for vehicle axle/license plate detection.
- Automated data preprocessing with Python - improved dataset diversity and label accuracy.

## Thesis

**M.Tech Thesis:** *Bridging Fuzziness and Optimization: Frameworks for Relation Inequalities and Multi-Criteria Decision Systems* - Result Awaited
Guide: Prof. MMS Beg (ZHCET, AMU) and Dr. JK Jain (MANIT Bhopal)

**B.Tech Thesis:** *Comparison of Various Deep Learning Techniques and Algorithms for Question Answering System* - Awarded **9/10**
Guide: Prof. MMS Beg (ZHCET, AMU) and Dr. Pooja Sharma (SMVDU)

## Technical Skills

- **Languages:** C, C++, Python, Shell
- **Libraries:** PyTorch, TensorFlow, OpenCV
- **Computer Vision:** YOLO, ResNet, MobileNetSSD, Transfer Learning
- **Tools:** Git, GDB, Unix/Linux, LaTeX