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**: M.Tech in Software Engineering with a GPA of 9.37 (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**: Qualified UGC-NET JRF in CS(087); GATE qualified in CS and DA
- **Industry Experience**: 2 years at Amdocs Development Center with cross-domain exposure; recognized in innovation contests and internal awards
- **Research Output**: Three international conference publications - two Scopus-indexed (IEEE CICTN 2025, IEEE ICCCNT 2025) and one zbMATH-indexed (Springer ICAIA 2025)

Education

Indian Institute of Technology Roorkee (INI) — Roorkee, Uttrakhand
PhD in Computer Science and Engineering — July 2025 - Present

Maulana Azad National Institute of Technology (INI) — Bhopal, MP
MTech in Software Engineering *GPA: 9.37* — 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* - (Disertation Completed)
  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

Research and 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**

ZHCET (AMU) — Aligarh, UP
Research Intern — Jan 2021 - May 2021

- Customized and optimized **deep learning models** (BiDAF, RNET) to improve the **accuracy** of **factoid question responses**
- Designed and developed a **Django-based web interface** for seamless interaction with **AI models**

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

CICTN 2025 IEEE International Conference, 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*

ICAIA 2025 Springer International Conference, 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)*

ICCCNT 2025 IEEE International Conference, 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)*

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

National-Level Competitive Examinations

UGC-NET (Computer Science & Applications) NTA

- **Junior Research Fellowship (JRF)** in Dec **2024**
- Qualified for **Assistant Professor** in June **2024**

GATE (Graduate Aptitude Test in Engineering) IIT/IISC

- **Computer Science (CS)** - *Qualified* in **2022** and **2025**
- **Data Science & Artificial Intelligence (DA)** - *Qualified* in **2025**

Technical Skills

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