Arpan Neupane

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Objective

Motivated and research-oriented Computer Engineering graduate from the prestigious Institute of Engineering (IOE), Nepal, with an **A Grade distinction**. Passionate about advancing the fields of Data Science, Machine Learning, Natural Language Processing, and Computer Vision through rigorous research and practical applications. Seeking graduate research opportunities to contribute to innovative projects and develop expertise under expert mentorship.

Education

Bachelor of Engineering in Computer Engineering *June 2025*
Institute of Engineering (IOE), Purwanchal Campus, Tribhuvan University, Nepal

- Graduated with **First Division (A Grade)** distinction
- Academic and project focus on **Artificial Intelligence, Machine Learning, and Computer Vision**
- Served as **Secretary**, ACES Computer Club student-led computing association

Scholarships & Awards

- **Full Academic Scholarship** Green Garden Boarding School, Rasuwa (Grades 110)
  Awarded for maintaining consistent top rank (1st position) and academic excellence throughout 10 years of schooling in a rural setting.

- **Merit Scholarship (50% Waiver)** National School of Sciences, Kathmandu (Grades 1112)
  Granted based on securing A-grade results in the entrance and top-tier academic performance at one of Nepals leading science colleges.

- **Mahatma Gandhi Scholarship** Embassy of India, Nepal (Grades 1112)
  Awarded through a national-level selection by the Indian Embassy to support outstanding students in the higher secondary science stream.

- **Entrance Merit Scholarship** Institute of Engineering, Tribhuvan University (Bachelors Level)
  Earned by ranking in the top 1,300 among 10,000+ applicants in Nepal's competitive engineering entrance exam.

- **Golden Jubilee Scholarship** Embassy of India, Nepal (Bachelors Level)
  Secured as one of 50 selected from over 3,000 applicants, recognizing academic merit and fostering NepalIndia academic collaboration.

- **Kalika-3 Ward Scholarship** Rasuwa Municipality (Bachelors Level)
  Local government scholarship awarded for distinction-level results in engineering studies and leadership impact in a remote community.

- **Semester Topper Scholarships** Institute of Engineering, Tribhuvan University (Bachelors Level)
  Awarded twice for achieving highest grades in consecutive semesters, demonstrating consistent academic excellence and subject mastery.

Research and Publications

AI-Powered Document Verification using TrOCR, YOLOv8, and Facial Recognition
Under Review International Conference on Recent Trends in Artificial Intelligence (ICRTAI), 2025

- Designed and implemented a real-time document verification system integrating optical character recognition (OCR), deep learning-based object detection (YOLOv8), and facial recognition techniques.

An Automated MCQ Generator Using NLP
Published International Journal of Innovative Science and Research Technology (IJISRT), June 2025
DOI: 10.38124/ijisrt/25jun1878
https://www.ijisrt.com/an-automated-mcq-generator-using-nlp

- Developed an NLP-driven educational tool to autonomously generate context-aware multiple-choice questions from academic texts, enhancing learning and assessment capabilities.

Internship

Data Science Intern
Mind Risers Pvt. Ltd., Kathmandu, Nepal   **Jan 2025 Mar 2025**

- Designed, trained, and evaluated supervised machine learning models, including classification and natural language processing (NLP) pipelines.

- Developed intelligent chatbot modules and automated document classification systems.

- Gained hands-on experience with real-world datasets, model deployment, and collaborative agile development processes.

Technical Skills

- **Programming Languages:** Python, SQL

- **Libraries & Frameworks:** Pandas, NumPy, Scikit-learn, TensorFlow, Keras, OpenCV, NLTK, spaCy, Matplotlib, Seaborn

- **Platforms & Tools:** Jupyter Notebook, Google Colab, Git, Docker, Azure Machine Learning, VS Code

- **Deployment & Web Integration:** Django (REST API), React.js, Streamlit for building and deploying interactive ML applications and data visualizations

- **Specializations:** Machine Learning, Deep Learning, NLP, Computer Vision, Data Visualization, Model Deployment

Selected Projects

Document Verification System (DVS) [GitHub]
A full-stack web system for automated verification of driving licenses and citizenship documents using state-of-the-art OCR (TrOCR), object detection (YOLOv8m), and facial recognition integrated with Django backend and real-time webcam capture.

Automated MCQ Generator [GitHub]
An NLP-based tool that generates multiple-choice questions from educational texts by extracting key phrases and converting sentences.

Facial Emotion Recognition
Built a CNN model trained on FER2013 dataset to classify human emotions in real time using OpenCV.

COVID-19 Data Analytics Dashboard
Performed data analysis and visualization of COVID-19 trends worldwide using Python libraries (Pandas, Matplotlib).

Leadership & Volunteering

- **AI/ML Instructor, ACES Computer Club** Developed and delivered hands-on workshops on machine learning concepts and Python programming, enabling 50+ students to build practical AI projects, enhancing their problem-solving and coding skills.

- **Volunteer, Kalika-3 Ward Office, Rasuwa** Led a community-driven initiative to digitize over 1,000 citizen records, streamlining data retrieval and improving transparency in local governance through the implementation of a reliable data management system.

- **Volunteer, Green Garden Boarding School, Rasuwa** Organized and taught computer literacy classes to underprivileged youth, equipping 40+ students with essential digital skills and foundational programming knowledge to increase their academic and future employment opportunities.

- **Secretary, ACES Computer Club** Spearheaded the organization of coding competitions, seminars, and tech events, boosting club membership engagement by 30% and fostering a collaborative and innovative learning environment within the campus community.

References

Available upon request.