

# Anju Chhetri

## WORK EXPERIENCE AND RESEARCH

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### Research Assistant

Apr. 2024 - Present

Nepal Applied Mathematics and Informatics Institute for research  
Supervisor: Dr. Binod Bhattarai

Lalitpur, Nepal

- Working on research projects focused on **trustworthy machine learning**.
- Developed an **OOD detection method** for pathology segmentation in volumetric medical images, specifically MRI and CT scans, based on **self-supervised learning** with synthetic anomalies, leading to a **5<sup>th</sup>-rank** in the MICCAI 2024 challenge.

### Undergraduate Research Intern

Aug. 2023 - Mar. 2024

Nepal Applied Mathematics and Informatics Institute for research  
Supervisor: Dr. Binod Bhattarai

Lalitpur, Nepal

- Worked on an **Active Learning framework** to determine the most effective **uncertainty-based sampling technique** to address dataset imbalance in a multi-class object detection task.
- Trained deep learning models and conducted an ablation study for detecting gait abnormalities in warehouse environments.

## EDUCATION

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### Pulchowk Campus - Institute of Engineering, Tribhuvan University

Nov. 2019- Apr. 2024

B.E in Electronics, Communication and Information

- Achieved Rank 104 in the university entrance examination out of nearly 18,000 candidates - **top 0.6%**, and received the scholarship provided by the Government of Nepal covering full tuition expenses
- Graduated with **75.73%**, ranked in the top 5% of students, and as the **top-performing female student** in the program.

## PUBLICATIONS

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- Chhetri, A., Korhonen, J., Gyawali, P., & Bhattarai, B. (2025). **NERO: Explainable Out-of-Distribution Detection with Neuron-level Relevance**. *In International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), 2025*

## SELECTED ACADEMIC PROJECTS

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### Improving Adversarial Image Robustness For Preventing Image Manipulation

Oct. 2023 - Apr. 2024

Capstone Project

[Link to Repo](#)

- Developed a **JPEG-resistant image immunization pipeline** to prevent text-guided AI manipulation, specifically for text-guided diffusion models.
- Investigated the impact of text prompts on the **success of adversarial attacks** against **text-guided diffusion models**.

### Real-Time Visual Element Generation Using GANs

Dec. 2022 - Apr. 2023

Academic Project

[Paper](#) | [Link to Repo](#)

- Developed a **real-time neural rendering system** for generating realistic grass in video games.
- Experimented with existing architectures, performed result analysis, and designed new architectures that achieved both visual fidelity and low inference time.

## TEACHING EXPERIENCE

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### Fifth Annual Nepal AI School - NAAMII

27th Dec., 2024 - 6th Jan., 2025

Teaching Assistant

[Certificate](#)

- Performed live demonstrations of adversarial attacks in image models and LLMs to an audience of 100 students under the supervision Prof. Yash Raj Shrestha (University of Lausanne, Switzerland).
- Assisted in lab sessions on Geometric Deep Learning, Active Learning, and Self-Supervised Learning.

## AWARDS AND HONORS

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Mentee, Women Leaders Mentorship Programme, EU in Nepal	<i>Dec. 2024–Present</i>
Mentor: <b>H.E. Veronique Lorenzo</b> , EU Ambassador to Nepal, <b>4.4% acceptance rate</b>	
Medical OOD Analysis Challenge, <b>5th Place</b> , Pixel-level Task	<i>October 2024</i>
MICCAI 2024	
Hacking for Humanity 2023, <b>2nd Runner Up</b>	<i>February 2023</i>
Shequal Foundation, Nepal's largest all female hackathon	
GritFeat AI Health Hackathon, <b>1st Position</b>	<i>January 2023</i>
GritFeat Solutions	
Ace Ignite 2022 Hackathon, <b>1st Position</b>	<i>November 2022</i>
Ace Institute of Management	
ABU-Robocon 2022, <b>2nd Runner Up</b>	<i>August 2022</i>
Asia-Pacific Robot Contest	
3rd Annual Nepal AI School - <b>Full Scholarship</b>	<i>December 2021</i>
Nepal Applied Mathematics and Informatics Institute for Research	
Mahatma Gandhi Scholarship	<i>2017-2018</i>
Embassy of India	

## VOLUNTEER EXPERIENCE

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- **Organizing Committee** *Oct. - Dec., 2024*  
Fifth Annual Nepal AI School - NAAMII
  - **Lead Organizer** for the AI School Hackathon, where I managed logistics, including stakeholder coordination, task division, and event planning both prior to and during the event.
  - **Served on the admissions committee** and evaluated around 150 applications under scholarship category.
- **AI Trainer, Right to Information** *10th Aug. - 14th Aug., 2024*  
Sancharika Samuha, The Asia Foundation, USAID Nepal
  - Led an AI training session in eastern Nepal with **50 journalists from 6 districts**, focusing on enhancing their understanding of AI technology.
  - Provided foundational AI knowledge and conducted hands-on training, demonstrating how tools like **ChatGPT, DALL-E, and Claude** can be used by journalists in Nepal to enhance productivity.
- **Children in Technology, 2023** *26th - 29th Nov., 2023*  
LOCUS 2023
  - Led a team of **13 undergraduate students** to **5 underserved rural communities** in eastern Nepal, engaging with **13 schools** and approximately **2,000 students** on internet safety and cyber law.

## AFFILIATIONS

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- **Event Manager** *Dec. 2021 - Feb. 2023*  
IT Club, Pulchowk Campus
  - Organized **5 events**, each attended by approximately **40 students**, covering topics such as low-level system programming and UI/UX design.
  - Oversaw **technical setups** and **logistics** for all club events.
- **Student Member** *Dec. 2019 - Aug. 2022*  
Robotics Club - Pulchowk Campus
  - Worked on multi-view geometry and object localization using stereo vision for a ball-throwing robot in **ABU-Robocon 2022**.
  - Organized a **robotics training camp** for 35 primary school students at 2 public schools, aiming to encourage early interest in robotics and STEM.
  - Mentored junior members for **ABU-Robocon 2023**.

## TECHNICAL SKILLS

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**Language:** Python, LaTeX, C/C++, MATLAB

**System:** Linux, Windows

**Software:** Emacs, Git, Arduino IDE

**Machine Learning Framework:** PyTorch, Wandb

**Electronics:** Arduino, Raspberry Pi Pico, PCB design, Soldering