

# Nisan Chhetri

Portfolio: [nisanchhetri.github.io](https://nisanchhetri.github.io)

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## EDUCATION

- **North Carolina State University** Raleigh, NC  
*Ph.D. in Computer Science* Aug 2021 – May 2026  
*Courses:* Data Structures and Algorithms, Data Mining, Artificial Intelligence, Neural Networks
- **Tribhuvan University, IOE** Kathmandu, Nepal  
*Bachelor of Engineering in Electrical* Aug 2014 – Dec 2018  
*Courses:* C, C++, Signal Processing, Microprocessor, Probability and Statistics, Artificial Neural Network

## SKILLS

- **Languages:** Python, C, C++, Prolog, AVR
- **Frameworks:** Tensorflow, Pytorch, Keras, OpenCV, Sci-kit learn, Rasa, NLTK, SpaCy, PySpark, NFStream, Geoip2
- **Tools:** Pandas, Numpy, Scipy, Matplotlib, Seaborn, GIT, AWS, Jupyter notebook, LaTeX

## EXPERIENCE

- **Knowledge Discovery Lab** Raleigh, NC  
*PhD Student* Dec 2021 - Present
  - **Text to image synthesis:** Researching on novel technologies for visualizing creativity through deep learning methods. Shadowed CLIP paper for baseline text to image generation.
- **North Carolina State University** Raleigh, NC  
*Teaching Assistant* Aug 2021 - Present
  - **C and Software tools:** Assist students during office hours. Grade assignments and test problems. Monitor student's progress. Guide students to complete the projects.
  - **Discrete Mathematics:** Created lecture materials, assignments, and test problems. Graded exam submissions. Solved student problems during office hours. Fostered students' critical thinking.
- **Innovative Educational Computing Lab** Raleigh, NC  
*PhD Student* Mar 2020 - Dec 2021
  - **Text to image synthesis:** Research on text to image generation with technologies such as generative adversarial networks. Execute effective research methodologies on "is image superior to text?"
- **Children in Tech** Kathmandu, Nepal  
*Co-founder and Knowledge Director* Apr 2021 - Present
  - **Artificial intelligence:** Define timelines, resources, and milestones for projects. Discuss with executive board members regarding future plans and goals. Lead 5-6 developers to create 3 machine learning projects in blockly. Organize weekly meetings to discuss ideas. Approached more than 3 schools for collaboration.
- **Fusemachines Inc.** Kathmandu, Nepal  
*Machine Learning Engineer* Dec 2019 - Jul 2021
  - **AI in Education:** Created 8-10 course materials and 4-5 projects for 3-4 colleges on various machine learning and deep learning topics. Conducted mathematics and RL sessions. Trained three interns for 3-4 months.
  - **Intrusion Detection System:** Implemented random forest and autoencoder models to classify traffic with accuracy of 78% and 89%. Preprocessed and visualized 1 TB pcap files. Researched on various malware attacks: Botnet, Torjan, etc.
- **Paaila Technology** Kathmandu, Nepal  
*AI Developer* Mar 2019 - Nov 2019
  - **Chatbots:** Collaborated on building chatbot systems with rasa and increased 3-4 new clients. Debugged existing code. Performed interactive conversation with chatbot systems. Led two new interns to improve chatbot systems.
  - **Internship:** Built a foundation on python, data structure and algorithms, and git. Created Nepali Romanizer system.

## PROJECTS

- **Terrian Classification (Machine learning, Geospatial data, Time-series):** Built a model with CNN and LSTM with accuracy up to 93% on test sets. Tech: Python, TensorFlow, Pytorch, Jupyter, Pandas (Nov 2021)
- **Pneumonia Detection (Deep Learning, Computer Vision, Image data):** Implemented a DenseNet model to detect pneumonia disease with accuracy up to 80%. Tech: Python, Google colab, Pydicom, Keras, Pandas, Matplotlib. (Dec 2021)
- **Pari Airline (Chatbot, Natural Language Processing/Understanding):** Collaborated in chatbot project for airline client. Built chatbot system using Rasa and Snips-nlu library. Tech: Python, Rasa, Snips-nlu, Flask, AWS (May 2019)
- **Flappy Bird (Reinforcement Learning):** Applied Deep Q-learning technique to create a Flappy bird game. Modified code to cross 100 scores. Tech: Python, Jupyter, OpenAI Gym, Google Colab (Mar 2020)

## VOLUNTEER EXPERIENCE

- **Member at AI CIRCLS Community** San Mateo, CA  
*Active participation in integrating computer science and learning science research.* Aug 2021 - Present
- **Trainer - C programming** Kathmandu, Nepal  
*Conducted C programming sessions with over 200 students and helped them on the projects.* Feb 2017 - Mar 2017