

Jeevan Thapa

☎ (+1)-585-290-2847

✉ jt4812@g.rit.edu

📍 Rochester, New York

🌐 <https://thapajeevan.com.np/>

EDUCATION

Ph.D. in Computing and Information Sciences

Aug 2022 — Present

Rochester Institute of Technology

Rochester, U.S.A.

- **Advisor:** Dr. Rui Li, Lab of Use-inspired Computational Intelligence (LUCI)

Bachelor's Degree in Computer Engineering

Nov 2015 — Sep 2019

Pulchowk Campus, Institute of Engineering, Tribhuvan University

Lalitpur, Nepal

RESEARCH INTERESTS

Machine Learning: Continual Learning, Test-Time Adaptation, Self-Supervised Learning

Computer Vision: Object Segmentation, Re-identification, Tracking, Action Recognition

EXPERIENCE

Graduate Research Assistant

Aug 2022 — Present

Rochester Institute of Technology (RIT)

Rochester, U.S.A.

- Researching in the field of Bayesian Continual Learning at the Lab of Use-inspired Computational Intelligence

Machine Learning Engineer

Sep 2019 — Jun 2022

Fusemachines

Kathmandu, Nepal

- Directed and collaborated on the design and implementation of machine learning architecture, and deploying deep learning models for four industry projects.
- Contributed to the design and development of course materials for the fuse|ai program, focusing on Computer Vision, Transformer-based Natural Language Processing, and Time Series Analysis.

Instructor for “Mathematics for AI”

Jan 2021 — Jun 2021

fuse|ai, Herald College

Kathmandu, Nepal

- Instructed undergraduate course covering fundamental topics for machine learning, including Linear Algebra, Calculus, Probability and Statistics, and Information Theory.

AI Intern

Jan 2019 — Jun 2019

Leapfrog Technology

Kathmandu, Nepal

- Acquired proficiency in license plate localization using various standard CNN architectures with diverse loss functions.
- Received training in constructing a face recognition system encompassing face detection, point-based face-alignment, face-embedding with Siamese network, and KNN classifier.

PUBLICATIONS

Jeevan Thapa, Rui Li (2024). Bayesian Adaptation of Network Depth and Width for Continual Learning. Accepted in Forty-first International Conference on Machine Learning (ICML).

PROJECTS

Human Trafficking Recognition from Sex Worker Ads and Inter-Ad Matching

Fusemachines

- Served as Team Lead, overseeing the design of the machine learning pipeline and the establishment of the data annotation process.
- Executed the implementation of a contrastive loss-based image search tailored for inter-ad matching, face-based person identification and models for image-based and text-based trafficking recognition, and NER-based social handle extraction.

Analysis of Radio Panelists Data

Fusemachines

- As Team Lead, led analysis into the impact of song quality, commercial length, and time of day on panelists, employing custom metrics and statistical tests to assess song quality.
- Designed and implemented a data pipeline to enhance and augment existing datasets.

Waste Type Detection

Fusemachines

- Developed a tailored object detection system by integrating SSD and MobileNet architecture with focal loss to determine the type of waste and the intent of the person disposing of it.

Session-based Network Intrusion Detection System

Fusemachines

- Performed a feasibility study on utilizing AutoEncoder-based semi-supervised learning for network anomaly detection, leveraging session data extracted from pcap files.

Nepali License Plate Recognition (Final Year Undergraduate Project)

IOE, Tribhuvan University

- Developed and executed a license plate recognition system tailored for Nepali license plates, encompassing three key stages: vehicle detection, license plate localization, and an OCR system focusing on Nepali characters.
- Created a license plate localization dataset specific to Nepali license plates through manual annotation, alongside crafting a Nepali character classification dataset by extracting alphabets and numbers from Devanagiri fonts.

TECHNICAL SKILLS

Programming Language	Python
Deep Learning	PyTorch, TensorFlow, tensorboard
Machine Learning	scikit-Learn, NumPy, pandas, matplotlib, seaborn, MLflow
Image Processing	OpenCV, scikit-image, augmentor
Natural Language Processing	NLTK, spaCy, huggingface - transformers
Miscellaneous	LaTeX, aws, git, Linux

AWARDS & HONORS

Scholarship/Assistantship for Ph.D.

- Awarded a merit-based scholarship at RIT to pursue a Ph.D. in Computing and Information Sciences.

Full Scholarship for Undergraduate Studies

- Received from the Nepal Government for achieving the 11th rank in the entrance examination (4% acceptance rate), conducted by Tribhuvan University.

Fusemachines AI Fellowship

- Shortlisted through an examination and an interview process, and subsequently enrolled in the MicroMasters program for machine learning.

fuse|ai Scholarship

- Chosen to participate in the fuse|ai course, which offered comprehensive exposure to machine learning and data science libraries.