# Utsav Maskey

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## SUMMARY / SKILLS

Practical machine-learning enthusiast, eager to contribute and avail in data driven fields. Intermediate understanding and proficiency of platforms for effective machine-learning including Pytorch, Pandas, R and spreadsheets; with mild experience in Web-development including FastAPI, Flask, MongoDB, Django and SQL. Marginally presuming yet open-minded person, motivated to learn, grow and excel in disciplines that employ statistical intelligence.

## EXPERIENCE / PROJECTS

**Information Language Processing & Research Lab,** *Researcher,* Kathmandu University **February 2022 – July 2022**

- Worked on projects aimed at training Large Language Models (LLMs) on the Nepali language including: distilbert-base-nepali, deberta-base-nepali and distilgpt2-nepali.

**Supercomputer Center Kathmandu University,** *ML Volunteer,* Kathmandu University **March 2022 – Present**

- Aided researchers and enthusiasts with the use of High-Performance Computing (HPC) resources.
- Conducted workshops regarding server configuration and model training on remote distributed using Slurm Workload Manager.

**Ocular Parking System,** *Semester Project* **December 2019 – March 2020**

- A computer vision-based system that extracts real-time information on parking lot vacancy and occupancy (Number of available parking spots), and displays it in an interactive leaflet map.
- Implemented on Python using Pytorch, OpenCV, Detectron and Folium map.

**Class Routine Management,** *Semester Project* **April 2021 – August 2021**

- Aims at automating class' routine schedules by reducing the hassle of finding vacant classrooms in a large institution, caused due to unnoticed changes in routine. It is a web platform for college routine management, class placement and its arrangement.
- Backend implemented on Python using FastAPI, PostgreSQL (using TortoiseORM) and ReactJS for Frontend.

**Other Pet Projects:** *Shashin-finder:* Search for images in a folder by photo description, tags or objects present.

- *Resume Clustering:* Cluster resumes by projecting the text's sentence embeddings and comparing their cosine similarity.
- *Dailygram:* News aggregation website that ranks the importance of news and presents it in a summarized form.
- *AfterImage*: Assist photo-editing tasks such as object removal, copying, translation & replacement using image processing and DL.

## ORGANIZING / LEADERSHIP

**AI Competition,** *IT Meet 2022,* Kathmandu University **August, 2022**

- Conducted a Machine-learning focused competition where 10 teams of undergraduate students (Total of 30 students) worked on training ML models for image and text classification; and performed data visualization.

## EDUCATION

**BSc. In Computer Science,** *Kathmandu University*, Dhulikhel 45200, NP **August 2018 – Present**

- *Courses:* Artificial Intelligence, Statistics & Probability, Calculus & Linear Algebra, Algorithms & Complexity, Database Systems
- *Electives:* Machine Learning, Information Security

**Fusemachines AI Fellowship,** *Fuse.ai*, Online **January 2023 – Present**

- Currently involved in *Microdegree™ in AI* (*Machine Learning)* Course

**FastAI Deep Learning Course (Part2, 2022),** *Fast.ai,* Online (Estimated completion: April 2023) **October 2022 – Present**

- This online course focuses on implementing cutting-edge deep learning algorithms including Stable Diffusion and covers advanced topics such as contrastive learning, transformer models, auto-encoders, and CLIP embeddings, using plain PyTorch in Python.

**Nvidia Deep Learning Institute (DLI) Courses,** *Nvidia,* Online (Self-paced) **November 2022 – Present**

- Took three courses, with each course focusing on Inference / Model Deployment, Real-Time Video AI Application and the fundamentals of CUDA.

**Deep Learning Specialization** *deeplearning.ai,* Online: Certificate Verification **April 2018** – **June 2018**

## AWARDS & PUBLICATIONS

U. Maskey, M. Bhatta, S. Bhatt, S. Dhungel, and B. K. Bal, **"Nepali Encoder Transformers: An Analysis of Auto Encoding Transformer Language Models for Nepali Text Classification,"** in *Proceedings of the 1st Annual Meeting of the ELRA/ISCA Special Interest Group on Under-Resourced Languages,* pp. 106–111. Available: https://aclanthology.org/2022.sigul-1.14

**June 2022**

## SOFT SKILLS AND INTERESTS

**Language:** English, Nepali, Conversational Japanese
**Hobbies:** Piano | Typing | Gaming | Cardistry | Data Collection