# UTSAV DARLAMI

Lalitpur, Nepal

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Website — Github — LinkedIn

## EXPERIENCE

**Machine Learning Engineer**                                              *September 2021 - Current*
Docsumo                                                                         *Kathmandu, Nepal*

- Deployed an API for text classification training and inference using rule-based systems and machine learning models(fasttext, spacy) which is consumed by 4 other api's.

- Improved the extraction pipleine for w2-forms from accuracy of **86.8%** to **90.2%**. This involved introducing a new layer to handle previously unaddressed scenarios, resulting in more reliable and precise information extraction.

- Developed a table structure that streamlined table data featurization for model training, resulting in a **60%** reduction in featurization time.

- Played a pivotal role in two major projects, making critical engineering decisions and initiated unit testing practice, which supported the project's overall quality and stability.

**Python Community Coordinator**                                      *August 2019 - August 2020*
Kathmandu University Computer Club                                            *Dhulikhel, Nepal*

- Led Python workshops for first and second year students of Kathmandu University through Kathmandu University Computer Club(KUCC).

- Delivered comprehensive lessons on essential Python programming concepts, Object-Oriented Programming(OOP), imparting fundamental knowledge and showcasing practical applications of data structures.

## EDUCATION

**Bachelor of Science in Computer Science**
*Kathmandu University, Dhulikhel, Nepal*                                *August 2017 - March 2022*

## PROJECTS

**Evolutionpy**                                                                          *Github*
*python,numpy,meta-heuristic algorithm*

- Designed and built an evolution-based optimizer using Python, as a personal challenge to improve my expertise in the language and learn more about software design patterns.

- Developed the project with the goal of learning how to build a Python package and to gain deep understanding of evolutionary algorithms and their applications to optimization problems.

- Applied best practices in software development, including modular code design, testing, and documentation, to create a reliable and developer-friendly package

**Sandstone Microscopic Image Segmentation**                                             *Github*
*python,scikit-learn,semantic-segmentation*

- Uses image filters and random forest model for performing semantic image segmentation to locate the Quartz, Pore, Clay and Heavy materials in the sandstone microscopic image.

- Applied image processing filters like Gaussian, Sobel, Entropy and Gabor filters to prepare the data features for model training.

- Explored the evaluation metrics like dice-coefficient and intersection over union for semantic image segmentation. The model had average dice-coefficient(F-1 Score) of **95%**.

**BreakfastScoop**                                                                       *Github*
*python,webscraping*

- Scrapes news articles from Nepali news sites using BeautifulSoup

- Uses Naive Bayes classifier to classify news into 10 categories with an f1-score of **81%**

**Nepali License Plate Detection and Recognition**                                    *Github*
*python,YOLO,Neural Network*

- Uses YOLOv2 state of art object detection model to detect license plates from a video.

- Applied Otsu threshold technique to segment and extract license plate characters.

- Developed Nepali character recognition model using Keras with an accuracy of **96%**.

## TALKS AND PRESENTATION

**Slide Presentation** on "Artificial Neural Network-Genetic Algorithm for Optimization of Multivariate Function: An Application to Lactic Acid Production" at the National Conference on Mathematics and Its Applications (NCMA 2022)
*Illam, Nepal*                                                                    *June 2022*

## SKILLS

**Programming Languages**
Python*(+3 years)*, C/C++, Bash, Javascript

**Database and Tools**
SQL, MongoDB, Docker, Git, Postman, Linux

**Data science and ML Frameworks**
scikit-learn, OpenCV, networkx, pandas, matplotlib, numpy, spacy, fasttext

**Deep Learning Frameworks**
Pytorch, transformers

**Languages**
English, Nepali and Hindi