UTSAV DARLAMI

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Website — Github — LinkedIn

EDUCATION

Bachelor of Science in Computer Science ***CGPA 3.45***
Kathmandu University, Dhulikhel, Nepal *August 2017 - March 2022*

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.
- 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.

Associate Machine Learning Engineer *September 2020 - January 2021*
Bottle *Lalitpur, Nepal*

- Developed a plan to help clothing store customers find their ideal size, collaborating with stakeholders and gathering requirements.
- Conducted experiments with **YOLO v2** and **OCR** for Devanagari characters to automate customer measurement extraction from measurement bills.
- Explored OCR techniques for Devanagari characters to accurately extract data from non-English bills, enhancing system adaptability.

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.

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