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Anish Dulal

Machine Learning Engineer

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A Machine Learning Engineer working to solve various business problems in the field of Computer Vision and Natural Language Processing for couple of past years. Proficient in implementing complete machine learning pipeline.

SKILLS

Tools and Languages	Python, Tensorflow, Keras, Pytorch, Pandas, Numpy, Matplotlib, OpenCV, Scikit-Learn, Git, C++, C, MATLAB, \LaTeX , NLTK, Docker, Flask, FastAPI, SQLAlchemy
Soft Skills	Teamwork, Problem-solving, Leadership, Creativity, Communication, Time management
Communication	English, Nepali, Hindi

TECHNICAL EXPERIENCE

Machine Learning Engineer Level I **Jan 2022 — Present**
Fusemachines *Kathmandu, Nepal*

- Predicted 3D human models from images.
- Replaced SMPL with STAR in the pipeline.
- Keyframe selection from video.
- Reduced latency of the overall pipeline by around 50%.
- Experimented and modified shape parameters in order to produce better fitting models.

Machine Learning Engineer Associate **Feb 2021 — Dec 2021**
Fusemachines *Kathmandu, Nepal*

- Worked to develop a system for table detection and table structure recognition from scanned images of documents.
- Used classical image processing techniques for bordered table structure recognition.
- Used deep learning based approach to extract borderless tables.
- Information extraction was done using Tesseract OCR, Easy OCR and Paddle OCR.
- Also worked to develop a system for tabular data extraction from pdf documents.
- Furthermore, layout analysis of documents was performed in order to reconstruct scanned document into docs.
- Worked as a curriculum engineer to design, create, review, refine course contents for Fusemachines AI Education Programs, MicroDegree in Artificial Intelligence: Machine learning, Deep Learning and Natural Language Processing.

Machine Learning Engineer Associate Trainee **July 2020 — Jan 2021**
Fusemachines *Kathmandu, Nepal*

- Created contents, slides, assignments, projects and exercises for Machine Learning and Deep Learning courses.
- Prepared lesson plans for Machine Learning and Deep Learning courses.
- Facilitated paper reading sessions, maths sessions and book reading sessions.
- Worked on developing machine learning models specifically focused on classification and regression on structured data.

PROJECTS

Plagiarism Detection in Electronic Text Assignments **2020**
B.E. Major Project

- Checks an assignment for plagiarism from a collection of previously submitted assignments.
- The documents were tokenized into sentences and BERT was used to get the embeddings in the vector space.
- Then, the similarity between the sentences were calculated using cosine similarity.

PUBLICATIONS

Plagiarism Detection in Programming Assignments using Machine Learning **2020**

- Generated features such as code style similarity, braces similarity, comment similarity, number of unused variables and functions, etc.
- Trained XgBoost model to classify whether the code was plagiarised or not.
- Published in **Journal of Artificial Intelligence and Capsule Networks**.
- DOI: <https://doi.org/10.36548/jaicn.2020.3.005>

EDUCATION

B.E., Electronics and Communication, *Institute of Engineering, Pulchowk Campus* 2016—2021
HSEB(+2), *United Academy* 2014—2016
SLC (10th Grade), *Heritage National Academy* 2014

ACTIVITIES

- Teaching Assistant, Third Nepal Winter School in AI organized by Naamii 2021
- Winner of Machine Learning Competition organized by Robotics Association of Nepal 2020
- Rising Student ICT Award 2019
- Blockchain Challenge Winner at Everest Hack 2019
- Thematic Software Category Winner 2019
- Thematic Software Category Winner 2018

ONLINE CERTIFICATIONS

- Machine Learning course of Fusemachines Microdegree™ in Artificial Intelligence
- [Deep Learning in Medical Imaging Workshop](#)
- Second and Third Nepal Winter School in AI
- [Machine Learning](#)
- [Deep Learning Specialization](#)
- [DeepLearning.AI TensorFlow Developer Professional Certificate](#)
- [STAT110x: Introduction to Probability: HarvardX](#)
- [Python Data Structures](#)
- [Data Analysis with Python](#)
- [AI For Everyone](#)
- [Python for Data Science, AI Development](#)
- [How to Win a Data Science Competition: Learn from Top Kagglers](#)