Sanidhya Mangal

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Education

Vanderbilt University *(Nashville,TN)*, Master of Science in Computer Science; *3.9/4.0* Fall 2021 – Present

Medi-Caps University *(Indore,India)*, Bachelor of Technology in CS; *8.4/10.0* Fall 2016 – Spring 2020

Technical Skills

Tools: Scikit, TensorFlow, Keras, Django, Flask, PyTorch, Kubernetes, Docker, GIT
Platforms: Linux, Web, Accre, AWS, Google Cloud Platform, Microsoft Azure
Languages: Python, SQL, Bash

Experience

Asurion **May 2022 – August 2022**
Data Science Intern *Nashville, TN*

- Developed a feature to nudge expert with rebuttal scripts in real-time during upsell in a call with 6% improvement in SP100.
- Part of data science life-cycle spanning from idedation, opportunity sizing **(SQL)**, modelling to deployment**(AWS)**.
- Trained Roberta model **(PyTorch)** using adversarial strategy to induce robustness in text-classification with small dataset.
- Devised out of the box metrics to measure, compare & analyze **(Python)** performance of different machine learning models.

Engineerbabu **June 2020 – June 2021**
Machine Learning Engineer *Indore, India*

- Developed Convolution Neural Network **(TensorFlow)** based system to perform prognosis of lung and colon cancer with 0.92 AUC.
- Led a team which reduced inference time by 30% for machine learning models and ml-pipeline.
- Designed & deployed **(Docker)** a web framework **(Django)** for performing Edge AI ops for object tracking and generating analytical reports.
- Part of network automation project **(Netmiko)** to reduce human efforts by 40% for end-to-end provisioning of services.

Projects

Self-SupervisedGAN | *Python, GAN, Self-Supervised Learning, Computer Vision, Generative Modelling* **April 2022**

- Generating high fidelity images and improving VanillaGAN's performance by inducing self-supervised pre-training **(PyTorch)**.
- This method is incorporated to prevent forgetful discriminator, aids in better convergence & prevent mode collapse.

Semi-Supervised Domain Adaptation | *Domain Adaptation, Computer Vision* **December 2021**

- Augmenting different representation learning methods for domain adaptation described in paper "Surprisingly Simple Domain Adaption" on OfficeHome dataset.
- Juxtaposed different supervised and unsupervised methods on for image classification **(TensorFlow)**.

GaussianProcessPy | *Statistical Machine Learning, Python, JAX, Gaussian Process* **November 2021**

- Progressively worked on development of library for gaussian process regressor and classifier as a part of coursework.
- To optimize computation performance variational sparse gaussian process technique was implemented.

Neural Machine Translation | *Natural Language Processing, Deep Learning* **October 2020**

- Developed a copy of Google's NMT to perform real-time translation from English to Hindi with BELU score of 14.

Publications

Automated filtering of genome-wide large deletions through an ensemble deep learning framework, *Methods* **August 2022**

- Helped in developing a wrapper library **(Tensorflow)** for image classification based structural variants using different state-of-art CNNs.

LSTM vs. GRU vs. Bidirectional RNN for script generation , arXiv **August 2019**

- Goal was to compare different seq-to-seq models for text generation in a form of TV scripts.