Aditya Wath

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Education

- **Indian Institute of Information Technology, Kottayam** — Kottayam, India
  Bachelor of Technology - Computer Science and Engineering; CGPA: 8.00 — *December 2020 - Present*

Skills Summary

- **Skills**: Machine learning, Deep Learning, Convolutional neural networks, Natural Language Processing, Generative adversarial networks, Object Oriented Programming
- **Languages**: Python, C/C++, HTML/CSS, SQL, Java, Javascript
- **Frameworks**: Pytorch, Scikit-learn, Numpy, Open CV, Pandas, Matplotlib, Django
- **Tools & Platforms**: Git, VsCode, Linux, Windows

Experience

- **Harman International** — Remote (Full-time)
  Machine Learning Intern - Currently working in NLP text classification — *August 2022 - Present*
  - **Data Cleaning**: Data cleaning, removal of dummy IT tickets and duplicates from dataset.
  - **Data Preprocessing**: Utilized text preprocessing techniques, such as regex, stemming, lemmatization, stopwords and wordninja module, to improve the quality of text data. Implemented outlier detection and removal, as well as feature engineering techniques like counting common words and extracting important words for each category. Addressed class imbalance through downsampling of majority class and upsampling of minority class using important words.
  - **Modelling**: Utilized both classical machine learning and deep learning approaches, including vectorization and various models for inference, and custom vectorizer with BERT model for feature extraction.
  - **CI/CD**: Successfully integrated model with ELVIS server via REST API and automated classification process using cron jobs and deployment on AWS server.

Projects

- **StockSense (NLP, WebScraping, Machine Learning, Full Stack Development, Data Analysis) -** Ongoing
  Tech: NLTK, Numpy, Pandas, Pytorch, Python
  Developing a project for extracting tweets and news articles, analyzing sentiments, and forecasting stock market trends for a company using NLP and their correlation with stock prices, machine learning and deep learning methods. Also provided advice on investment portfolio management and estimated future company value.
- **Image to Text Interactive (NLP, Image Processing) -** Ongoing
  Tech: OpenCV, Pytesseract, Pytorch, Pandas, Numpy
  Developing a Question-Answering system for answering inquiries about the content of the image by performing mathematical operations when required as part of the QA process and provides convenient, effortless information extraction
- **Designed Tshirt Image Generation (Deep Learning, Web Scraping)**
  Tech: Pytorch, Python, Numpy, BeautifulSoup
  A deep learning model for generating designed printed tshirt images using GANs. (July 2022)
- **MNIST Hand Digit Recognition (from scratch) (Deep Learning)**
  Tech: Numpy, Python
  Hand digit recognition using feed forward neural network and implemented backpropagation from scratch. (June 2022)
- **Online Shopping Web app (Full Stack Development)**
  Tech: Django, Python, HTML CSS, JavaScript
  A web app using Django framework that includes most of the basic functionalities such as creating new user accounts, sign-in, cart, placing order and payment using payment gateway with SMS, email notification and invoice. (March 2022)

Achievements

- **Secured 1st position in Reflections Machine Learning Hackathon IR4.0** - Tackled a challenge involving imbalanced datasets of electrical components with 18-20 unidentified features and low failure rate, resulting in accurate failure forecasting using feature engineering, preprocessing, and decision tree approaches.
  Achieved an F1 score of 100.(Aug 2022)

Certifications

- **Improving Deep Neural Networks HyperParameter Tuning, Reguralization and Optimization**: (Course Tutor : Andrew Ng)
- **Machine Learning Modeling Pipelines in Production**: (Course Tutor : Robert Crowe)