JUBIN BEN

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DESCRIPTION

As a Data Scientist with over 3 years of experience, I have honed my expertise in leveraging predictive modeling, data processing, data mining algorithms, and scripting languages to solve complex business challenges. My passion for AI, Computer Vision and coding in general has been instrumental in driving my contributions to various projects. These experiences have equipped me with a deep understanding of building ML models using various techniques, as well as developing Python-based software to operationalize the AI framework.

SKILLS

Machine Learning	• CNN models • Object-detection • Supervised ML models • RNN-LSTM	• ANN models • FCN2x, 6x, 8x • YOLO-V1, V2, V3 • Reinforcement learning
Python	• Pytorch • Tensorflow • Flask	• OpenCV • Numpy • Matplotlib
GitHub	• Git commands • GitHub	• GitLab
Production & Cloud	• AWS • Azure	• Git-CICD • Docker
ML-Tools	• MLflow • CVAT	• DVC
DB	• SQL • S3	• MongoDB
Languages & Frameworks	• C++ • Angular	• Java • HTML-CSS-JS

EXPERIENCE

1. NEC Corporation Pvt. Ltd.

Data Scientist (March-2020 -> Present)

Following are the major projects I have worked on:

Optimizing Warehouse Efficiency with Automated Forklift System using Object detection models

- Directed the development of an automated forklift system as a team leader.
- Used Object detection model (YoloV2 & YoloV3) and PnP algorithm for 6D Pose Detection
- Employed an RGBD image and FCN2X model for the Segmentation model approach to generate the Segmentation mask of the object, then converted its 2D coordinates to 3D coordinates.
- Developed and trained the YOLO-V2 model, which attained an inference time of 40 FPS with a 73 mAP score.
- Deployed the model into AWS Server and created restful API using Flask.
- Optimized the post-processing script for 6D-pose detection, reducing processing time by 88% and improving efficiency for detecting multiple objects simultaneously with Non-maximal-suppression algorithm.
- This resulted in a more efficient and accurate system that reduced operational time and increased productivity in the warehouse.

Fiber-Optic Foresight: Using AI to Identify Anomalies and Prevent Damage

- Developed an AI-based solution to detect anomalies in fiber optic cables to prevent potential damages.
- Used vibration data collected by DAS sensors to create modules for anomaly detection, pole health monitoring, cable identification, and identification of areas where damage is likely to occur.
- Trained Siamese network CNN 2D and CNN 3D models and developed a Python library for executing AI predictions.
- Developed a Git-CICD pipeline with multiple unit test cases for different modules and analysed the Pylint score, enhancing the development efficiency by 70% and improving the code quality.
- Implemented multiprocessing techniques to reduce data preprocessing time by 16x.
- The end product helped the customer monitor and detect anomalies on the cable, preventing high costs associated with cable replacement.

ML Algorithm Evaluator and Enhancer

- Developed an ML Library using multiprocessing capabilities to compute ML algorithms and evaluated it with Sklearn and Pyspark.
- Responsibilities included understanding various ML algorithms, performing hyper-parameter tuning, searching for different kinds of data, and preparing data for ML training.
- Contribution played a critical role in evaluating and improving the ML library, enhancing its ability for better predictions.

Azure Chatbot Developer for Technical Support

- Developed a chatbot for a client's customer care agents using Microsoft Azure.
- Responsibilities included extensive software development using Python, Azure LUIS, Azure Bot Service, and Azure Blob-storage, extreme debugging, and deploying the chatbot on Azure.
- Presented multiple ideas and demos directly to both the team and the client.
- The end product improved the efficiency of the client's customer care agents, resulting in reduced query resolution time and improved end-customer experience.

Algorithm Enhancer using Reinforcement Learning

- Improved the existing algorithm for a client's software that predicts dependencies needed to create new software.
- Used Graph Neural Network and Reinforcement learning techniques to optimize the algorithm, significantly improving prediction and training time.

Data Preparation and ML Tuning for SAP Automation Project

- Contributed to an automated requirement collection framework for the SAP system.
- Responsibilities included data preparation, creating a JSON script, editing client PPTs, tuning ML models, and implementing the RASA framework.
- My contributions led to improved training and testing accuracy of the model.

2. Defense Research and Development Organization (Government of India)

Intern (Mar-2019 -> Jul-2019)

Developed a website using JSP, Servlets, Eclipse DB, HTML, CSS, and JavaScript to enable researchers across India to submit research papers using submission forms. The website provides a user-friendly interface and uses the latest web technologies to ensure speed and security. This project promotes academic excellence and innovation in India by providing a simple and efficient way for researchers to share their work.

EDUCATION

Bachelors in Computer Science | Amity University Noida, India
FROM 2016 – 2020

Senior Secondary School | TRH Public School, Haryana, India
2015 – 2016

High School | Army Public School Delhi Cantt, India
2013 – 2014

Certifications

- ADVANCED COMPUTER VISION | DEEPLEARNING.AI | APRIL-2023
- CUSTOM MODELS, LAYERS, AND LOSS FUNCTIONS WITH TENSORFLOW | DEEPLEARNING.AI | APRIL-2023
- CUSTOM AND DISTRIBUTED TRAINING WITH TENSORFLOW | DEEPLEARNING.AI | APRIL-23
- DATA ANALYTICS USING PYTHON | NPTEL | MAY-2020
- APPLIED ML IN PYTHON | COURSERA | APR-2021
- MACHINE LEARNING BY STANFORD ONLINE | COURSERA | SEPT-2020
- INTRODUCTION TO IOT | NPTEL | APR-2020