JUBIN
BEN

070-9026-0882 📞
jubinben@gmail.com ✉
www.linkedin.com/in/jubinben 🔗
github.com/jubinben98 🌐

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	• ANN models
• Object-detection	• FCN2x, 6x, 8x
• Supervised ML models	• YOLO-V1, V2, V3
	• Reinforcement learning

Python	
• Pytorch	• OpenCV
• Tensorflow	• Numpy
• Multiprocessing	• Matplotlib

GitHub	
• Git commands	• CICD pipelines
• GitHub	• GitLab

Front-end	
• Angular-framework	• Mark-downs
• JS-HTML-CSS	• Postman

CPP	
• STL	• Pybind-11

Microsoft	
• Excel-Word	• Power-point
• Azure-LUIS	• Azure Blob Storage
• Azure-Bot service	

DB	
• SQL	• MongoDB

AWS	
• EC2	• S3

OS	
• Linux-MacOs	• Windows

💼 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

As a team leader, I directed the development of an automated forklift system to improve warehouse efficiency. Two approaches were employed to detect the pose of the pallets, namely the 6D Pose Detection and 3D pallet coordinates using Segmentation model. To achieve this, we used Object detection model (YoloV2 & YoloV3) and PnP algorithm for the 6D Pose Detection approach, which attained a 15FPS prediction time target. For the Segmentation model approach, we employed an RGBD image and FCN2X model to calculate the centroid of pallet and its two holes, then converted 2D coordinates to 3D coordinates. The result was 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 damage and high costs associated with cable replacement. Used vibration data collected by DAS sensors to create modules including anomaly detection, pole health monitoring, cable identification, and identification of areas where damage is likely to occur. Used Siamese network CNN 2D and CNN 3D models for training, and developed a Python library for executing AI predictions. Also implemented a Git-CICD pipeline for multiple unit test cases for each module and a module for analyzing Pylint score of each module individually. Hence, increasing the code quality.

ML Algorithm Evaluator and Enhancer

In this project, we developed a machine learning (ML) library that utilized multiprocessing capabilities to compute ML algorithms. As a team member, my role was to compare various ML algorithms of the client's library with those of Sklearn and Pyspark, and explain the evaluation to the client. My responsibilities included understanding various ML algorithms, performing hyper-parameter tuning of different ML models, searching for different kinds of data, and preparing data for ML training. Overall, my contribution played a critical role in evaluating and improving the client's ML library, enhancing their ability to develop effective ML models.

Azure Chatbot Developer for Technical Support

Developed a chatbot for a client's customer care agents using Microsoft Azure. My responsibilities included extensive software development using Python, Azure LUIS, Azure Bot Service and Azure Blob-storage, extreme debugging, and deploying the chatbot on Azure. I also presented ideas and demos to the team, conducted research on Azure LUIS, and used Pylint for code analysis. The end product helped the client's customer care agents to resolve the customer queries more efficiently, resulting in reduced query resolution time and improving the end-customer's experience.

Algorithm Enhancer using Reinforcement Learning

Improved an existing algorithm for a client's software that predicts dependencies needed to create a new software. Used Graph Neural Network and Reinforcement learning techniques, and Pytorch. Additionally, gained experience with GitHub, and Ubuntu.

Data Preparation and ML Tuning for SAP Automation Project

Automated requirement collection software creation project for SAP system. My contributions included data preparation, creating a JSON script, editing client PPTs, tuning ML models, and implementing the RASA framework. Additionally, I gained some experience working with SAP software.

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.

🎓 ACHIEVEMENTS

At NEC Corp. India
- Developed and implemented a GitHub CICD pipeline for multiple software modules, enabling automated testing upon every pull request to the "dev" branch, saving developers' time and improving efficiency.
- Utilized multiprocessing techniques to streamline data preprocessing, saving time and increasing productivity.
- Created the FBSLLHZ module, enhancing the functionality and capabilities of the software.
- Received recognition for developing multiple CNN models on various datasets, demonstrating strong technical skills.
- Developed and trained the FCN2x model for the segmentation model, which outperformed all other models and was ultimately used for AI predictions in the final release.
- Upgraded the post-processing script for the 6D-pose detection, allowing for the detection of multiple pallets simultaneously using the Non-maximal-suppression algorithm to filter out low-quality prediction boxes.
- Created a CPP wrapper for the 6D-pose detection python library, enabling the library to be called using CPP for predictions.
- Provided valuable support to other team members in the creation of quantized and Intermediate Representation models using Intel Open Vino.

🎓 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
- 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