Vaishnavi Pradeep Patare

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GitHub | **LinkedIn** | **LeetCode**

About

AI & Machine Learning intern specializing in medical image analysis with hands-on experience in DICOM imaging, X-ray reconstruction and real-time fracture detection. Strong foundation in deep learning, computer vision, and data preprocessing with a proven ability to build and evaluate models for clinical relevance. Actively contributing to innovative healthcare solutions using modern ML/DL techniques.

Experience

System Design/Architecture AI-ML Intern | Philips   *Aug 2024 – Present*

1) Hand Gesture-Based Medical System Control –
Built a custom dataset for gesture classification in clinical environments. Conducted comparative evaluation using models like YOLO, MobileNet, InceptionV3, and VGG16/19. YOLO model showed highest accuracy for real-time control.
Upcoming activities: Integration with CAN-based medical hardware.
Skills- Image Classification, Object Detection, YOLO, Model Evaluation, Dataset Design, CAN Protocol (in-progress)

2) Revolutionizing Fracture Diagnostics: AI-Powered Analysis of DICOM Images –
Developed proof-of-concept using Python, OpenCV, and YOLO to classify and detect bone fractures.
Implementing real-time processing pipeline for hospital use.
Skills-DICOM Image Processing, Image Classification, Object Detection (YOLO), Real-time Image Analysis, Python (NumPy, OpenCV, Scikit-learn).

3) Streamlined Log File Analysis for X-ray Systems -
Mapped user actions during X-ray machine operation to hexadecimal codes using VBA for easier traceability. Developed a prototype to encode, securely store, and later decode logs for structured display and analysis. Improved readability and interpretability of logs for error diagnostics.
Upcoming activities: Automation of real-time log monitoring and integration with fault prediction models
Skills – Log File Parsing, VBA, Encoding/Decoding, Secure Data Storage, Error Analysis, X-ray System Diagnostics

Personal Project

Resume Screener | Data preprocessing, ML, NLP (Jan 24-Feb 24)   **GitHub**
Built a machine learning pipeline to automate resume screening for a recruitment firm.
Resume Parsing: Extracts key information like name, email, skills, and education using Natural Language Processing (NLP) techniques.
Resume Category: Categorizes resumes based on job descriptions, improving efficiency in candidate filtering.
Job Recommendation: Recommend suitable jobs for candidates based on their skill set, enhancing the recruitment process.

Skills

Programming Languages: Java, Python, SQL

Database and Tools: Database Management System (DBMS), Version control (Git/GitHub)

Data Science and Machine Learning: Data Engineering, Data Pre-processing, Data Scrapping and Mining, Data Analysis and Visualization, Machine Learning, Deep Learning, Natural Language Processing
Core Computer Science Subjects: Object Oriented Programming, Operating System, Database Management System, Computer Networks and Security, Data Structures and Algorithms

Education

Vishwakarma Institute of Information Technology, Pune
B.Tech. in Electronics and Telecommunication   *CGPA- 8.8*