

Meghashyaam Sagar



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- Cyberjaya, Selangor
- 15 June 2002
- Male
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- github.com
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SKILLS

- Deep Learning**
 - 1. PyTorch
 - 2. Tensorflow
- Data Skills**
 - 1. SQL
 - 2. Power BI
 - 3. ERD Diagrams
 - 4. Cloud Firestore (Firebase)
- Machine Learning**
 - 1. Scikit-learn
- Computer Vision**
 - 1. OpenCV
 - 2. Pillow
- Python**
 - 1. Pandas
 - 2. Numpy
 - 3. Sympy
 - 4. Rospy
 - 5. Streamlit
- Java**
 - 1. Android Studio

EDUCATION

- Bachelor's Degree, Computer Science (Artificial Intelligence)**
University of Malaya
10/2021 – 02/2025
CGPA : 3.71 (Honours, Distinction)
- Malaysian Matriculation Certificate**
Penang Matriculation College
08/2020 – 05/2021
CGPA : 4.0
- SPM (Malaysian Certificate of Education)**
S.M.K Bukit Jambul
2015 – 2019
Score : 6A+ 3As

LANGUAGES

- English
- Malay
- Tamil

PROFILE

First-class Computer Science undergraduate specializing in Artificial Intelligence, with hands-on experience in deep learning, computer vision, and Python-based development. Proficient with PyTorch, TensorFlow, OpenCV, Tesseract OCR. Comfortable with Git workflows and Jupyter environments. Eager to apply AI to real-world challenges and seeking roles in Machine Learning, AI Engineering, Data Engineering, or Data Science.

PROFESSIONAL EXPERIENCE

- DHL IT Services**
Business System Analyst Intern 08/2023 – 02/2024
 - System integration and configuration of online payment gateways for multiple countries.
 - Modified DHL's project information webpage using website builders
 - Coded web interface of multiple payment pages in a payment gateway platform.
 - Performed user permission and access control configuration for logistic rating engines user accounts of DHL Group's logistics service related employees
- iTrainKids**
Volunteer Teaching Assistant 14/09/2022 – 18/09/2022
 - Tutored primary and secondary school students basic Python programming

HONOURS AND AWARDS

- Deans List**
Semester 4 | Semester 7
- USM Varsity Hackathon 2023**
Participation

PROFESSIONAL CERTIFICATION

- Power BI Fundamentals - DataCamp
- Responsive Web Design - Freecodecamp
- Applications of AI for Anomaly Detection - NVIDIA

PROJECTS

- Information Extraction from Ultrasound Sonography Report (Final Year Project)**
 - Designed, implemented an end-to-end OCR pipeline to extract structured medical data from scanned ultrasonography reports in PDF and image formats (PNG, HEIC), using OpenCV-based preprocessing, Tesseract OCR, Pandas and Pillow.
 - Applied image preprocessing techniques to enhance OCR performance; achieved a Character Error Rate (CER) of 2.9% for PDFs and 10.3% for camera-captured images.
 - Built a rule-based text parsing module to extract 15 clinical parameters (FL, BPD, HC, etc...)
 - Developed a full-stack web application using Streamlit, allowing doctors to upload reports, review/edit extracted data, and store it in Firebase Cloud Firestore with Excel export functionality.
 - Conducted user acceptance testing with clinical collaborators and implemented robust error handling and validation to ensure high usability and reliability.
 - Technologies : Python (OpenCV, Pandas, Pillow, Streamlit) Firebase (Cloud Firestore)
- Pneumonia Detection using Convolution Neural Network (CNN)**
 - Developed a deep learning pipeline for automated pneumonia detection from chest X-ray images, aligned with UN SDG 3 (Good Health & Well-being).
 - Implemented and evaluated multiple CNN architectures (Custom CNN, VGG16, EfficientNet); finalized a lightweight Custom CNN optimized for real-time, resource-constrained environments.
 - Achieved 97% validation accuracy and F1-score of 0.98 for pneumonia detection, with an average prediction time of 0.0092 seconds/image.
 - Handled class imbalance using data augmentation and under-sampling; ensured model fairness and explainability using ROC curves, KDE plots, and Grad-CAM visualizations.
 - Technologies : Python (Scikit-learn, Tensorflow, Seaborn, Numpy, Pandas, Pillow)
- Real-Time Hearing-Impaired Communication Assistance Robot**
 - Engineered a real-time bi-modal communication system integrating sign language recognition and speech transcription to assist interactions between hearing-impaired individuals and robots.
 - Developed a custom Convolutional Neural Network (CNN) using PyTorch for hand gesture classification, processing real-time camera feeds to interpret sign language.
 - Integrated speech recognition capabilities utilizing the Google Speech API within a ROS node to transcribe spoken words into text.
 - Deployed both modules on a physical robot, addressing hardware constraints by training models directly on the device to ensure compatibility and performance.
 - Conducted extensive testing across various environmental conditions, including different lighting scenarios and background noises, to validate system robustness and reliability.
 - Facilitated seamless communication between modules through ROS, employing nodes and topics to manage data flow and system interactions.
 - Technologies : Python (PyTorch, Rospy), Linux, ROS

REFERENCES

- Dr Saw Shier Nee**, Senior Lecturer, University Malaya
sawsn@um.edu.my, 03-79676341
- Mr. Sreetharan Krishnan**, Business Solutions Manager, DHL Express IT
sreetharan.krishnan@dhl.com