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WORK EXPERIENCE	
Tata Consultancy Services (TCS) – Extraction of text from handwritten documents using the PaddleOCR Framework [Jul-23 to Sep-23]	• Compiled a dataset of 120+ images featuring handwritten documents in English and Malayalam. The dataset was strategically split for training and for validation to optimize model performance and ensure accurate evaluation during the validation process • **L**abelled the dataset images in JSON format and pre-processed the dataset images to ensure they are of right size and format for the model • Employed PaddleOCR framework to extract text from documents, which achieved 78% accuracy in the initial phase • **Developed and trained a CRNN model** using a custom dataset over 10+ iterations to optimize performance • Attained a **92% accuracy** after evaluating the model using the validation dataset images
Raos Infosoft Join – Developed and trained machine learning models for fabric type classification and surgical instrument identification [Jul-24 to Sep-24]	• Classified a pre-labelled dataset of 23 distinct fabric types to ensure equal number of images for all classes through pre-processing • Leveraged a pre-trained convolutional neural network (CNN) model to classify fabric types, achieving a 26% accuracy rate • **Developed a custom model** by defining the layers of the neural network architecture and trained the model over 10+ iterations, which **improved accuracy to 86%** • Worked with a labelled dataset of 4 distinct surgical instrument classes, where pre-processing was done to ensure all classes have the same number of images • Enhanced the initial model performance through training over 10+ iterations, which achieved correct surgical instrument identification, with an **accuracy of 68% from an initial 0%**
PROJECTS	
Vision-Based Mobility Assistance System Using Real-Time Object Detection for Visually Impaired Individuals [Aug-24 to Present]	• Achieved real-time object detection by deploying a pre-trained object detection model, attaining an **accuracy of 72%** • Developed a **custom dataset of 100+ images using a depth camera**, which captures the distance of each point from the source • Leveraged 2 transformer-based models for efficient pre-processing and accurate depth prediction • By setting multiple thresholds, an array of 255s and 0s is created; Which isolates objects beyond these thresholds and removes the image background enhancing the focus
Real-Time Monitoring of Electrical Energy Consumption using ESP 32 [Sept-24 to Present]	• Captured current and voltage data using sensors, with resistors and capacitors for regulation • **Leveraged an ESP32 microcontroller** to convert analog signals and hosted a Vue.js **web app** to display real-time readings • Uploaded real time data to InfluxDB for storage and analysis. **Built a mobile app** to retrieve each user's real-time and historical power usage trends from InfluxDB • **Configured alerts** for energy consumption crossing safety thresholds
Face Mask Recognition System With YoloV7 [Sep-23 to Dec-23]	• Assembled a dataset comprising 200+ images, systematically partitioned for training and validation which leads to precise evaluation during validation • Pre-processed the dataset by resizing images and normalizing pixel values to optimize model performance during training • Implemented the YOLOv7 model on the dataset, achieving a recognition accuracy of 96% for identifying people; Face mask detection initially registered 0% accuracy • Improved model performance by training for 20+ iterations, successfully enabling the model to accurately determine whether individuals were wearing masks • **Achieved an average accuracy of 95%** in identifying individuals wearing masks.
SUBJECTS	
Technical Proficiency	Python, C , C++, HTML, CSS, Javascript, MySQL, Ethereum
Electives/Interests	Internet Of Things, Digital Currency Programming, Digital Image Processing
ACADEMIC DETAILS	
B.Tech , Computer Science and Engineering	Amrita Vishwa Vidyapeetham, Coimbatore **[2021 to 2025] [CGPA - 7.09]**
EXTRACURRICULAR ACTIVITIES	
Music	• Earned Distinction in Trinity College London's Piano Grade 5, Grade 2 exam
Sports	• Won multiple Table Tennis awards in collegiate and district competitions • Part of college and school football team
AWARDS AND RECOGNITIONS	
Proficiency in English	• Secured 99 percentile in CBSE XII Board Exams