

# CHADUVULA VARUN

varun30ec4@gmail.com | +91 6305741824 | Hyderabad | linkedin.com/in/Chaduvula-Varun/ | github.com/TheCoder30ec4

## EDUCATION

- **Amrita Vishwa Vidyapeetham, Bachelor's Degree in Computer and Communication Engineering** 2021-present

## SUMMARY

- Versatile professional with expertise in programming (Python, Java, C/C++), data science, machine learning, and hardware integration. Led impactful research projects, including developing IoT solutions for water management and an AI-based Elderly Fall Detection System. Proven track record in project leadership, achieving top positions in hackathons and competitions. Strong analytical and problem-solving skills showcased in developing high-precision models. Known for effective team management, collaboration, and strategic coordination. Demonstrates a comprehensive skill set in full-stack development, database management, and hardware proficiency. Strategic leader in coordinating inter-college events. Dynamic and innovative, consistently delivering efficient technological solutions.

## SKILLS

- **Programming:** Python, Java, C/C++, Data Science, Machine Learning, Tensorflow NLP, Pandas, Open CV, Full Stack development, Stable baseline, Reinforcement Learning, MySQL, Django, DBMS
- **Software:** Unity, Unreal engine, MATLAB, Gazebo, Microsoft Excel
- **Hardware:** STM32, ESP32, Raspberry pi, ATMel, MSP432, Arm
- **Soft Skills:** Leadership, decision-making, Multitasking, Flexibility, Project management

## RESEARCH EXPERIENCE

### Water and Land Management Training and Research Institute, Research Intern, Team Lead

Jul 2022 – Aug 2022 | Hyderabad, India

- Led a team of 4 experts to create a precision-driven IoT solution for monitoring water levels and refining irrigation in paddy fields, engaging directly with 50+ local farmers to understand their specific needs.
- Implemented a user-friendly IoT model seamlessly integrated into farmers' routines, designed intuitively for practical use in their agricultural practices.
- Initiated resulted in a remarkable 70% surge in groundwater utilization efficiency, accompanied by a noteworthy 50% reduction in electricity consumption.
- Collaborated with farmers to enhance technology usability, fostering tangible impacts on resource conservation and operational costs, culminating in a sustainable solution optimizing agricultural water usage

### Elderly Fall Detection System using Artificial Intelligence (Research paper), Team Lead, Body Visualization and Sensor Data Collection

Sep 2023 – present | Chennai, India

- Developed a system streamlining body data collection, employing machine learning to forecast auxiliary body part values from a primary sensor, slashing sensor costs by 90% while enabling predictive modeling from a single central body-attached sensor.
- Implemented lidar sensor technology for comprehensive data collection, yielding a 40% accuracy boost in gathering and analyzing data.
- Managed a team of 3, delegating tasks based on strengths, guiding through challenges, and fostering a collaborative, motivated work atmosphere.

## PROJECTS

### Object Detection using Tensorflow Lite, Amrita Vishwa Vidyapeetham

Sep 2023 – Oct 2023

- Built a specialized object detection model using Convolutional Neural Networks (CNNs) to precisely identify diverse objects within a large dataset.
- Utilized model quantization techniques, optimizing architecture for enhanced efficiency while maintaining an impressive 86% precision in object detection.
- Optimized model deployment by migrating to TensorFlow Lite, streamlining integration with microcontrollers, broadening application potential and cross-platform functionality, and improving user experience and accessibility.

### Path Prediction algorithm using Computer Vision, VIT Vellore

Apr 2023 – May 2023

- Engineered a refined algorithm predicting efficient robot paths within fields, achieving an impressive 92% accuracy rate.
- Guided a team of 2 to secure 2nd position at Vit Agrithon, hosted by IIIT Hyderabad and Nvidia, recognizing our project's innovation

### Plant Disease Prediction, Amrita Vishwa Vidyapeetham

Jan 2022 – May 2022

- Engineered a high-precision plant disease prediction model using CNNs on a large dataset, optimizing performance with advanced deep learning techniques.
- Built a full-stack website with Django, seamlessly integrating a machine learning model for efficient plant disease diagnosis.
- Delivered a system with real-time disease detection, achieving 98% accuracy, significantly enhancing agricultural efficiency through rapid and precise plant disease diagnosis.

## ACHIEVEMENTS & POSITIONS

### Smart India Hackaton(SIH)

- Managed team of 6 and secured 2nd position for Smart street light management system at Amrita University.

### VIT Agrithon

- Secured 3rd position for developing an AI-based algorithm by leading a team of 3 at VIT conducted by Nvidia, IIT Hyderabad

### Head of Inter-College-Competition Events

- Strategically coordinate and lead a spectrum of inter-college competition events, managing a portfolio of 15+ diverse activities as the Head