

# Cheedella Vamsi Kishore

Links: [Github](#) [LinkedIn](#) [Website](#) [Medium](#)

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## EDUCATION

### B.Tech Electrical and Electronics Engineering

Kerala, India

- National Institute of Technology, Calicut

June 2018 – May 2022

## WORK EXPERIENCE

### Robotics Software Intern - Void Robotics

(May 2023 - P), India

- Turtlebot4:** Created a Ignition world with dynamic obstacles with Turtlebot4 and visualized in RVIZ.
- Waypoints:** Through service call manual mode and autonomous mode can be set. In autonomous mode turtlebot navigates automatically through waypoints
- Pugins:** Collision detection plugin is added to avoid obstacles in given range. Smoother plugin is added to make navigation smooth.
- Image processing:** Camera is integrated to turtlebot4 in gazebo Ignition and object detection is implemented.
- Path planning:** Pure pursuit Algorithm is implemented for motion planning of turtlebot4.

### Python Developer/Capgemini

(Sep 2022 - May 2023), India

- python:** Develop and maintain an attendance management system using Python. Develop a credit card parser using provided parser code.

## PROJECTS

- Autonomous Under Water Vehicle:** Implemented roll, pitch, yaw control underwater. Removed Blue tint caused by water using Auto-encoders. Implemented Joy stick control. Designed PCB circuits power connections and circuit connections
- Robocon 2021:** Implemented Joy stick control for the robot. Controlled its motion using PID control
- Self-Driving Car - Carla:** Guide the vehicle along a race track by navigating through predetermined waypoints. Ensure the vehicle attains specific speeds at each waypoint through a combination of longitudinal and lateral control. Monitor and display feedback on throttle, steering, brake outputs, and speed responses during the simulation. The trajectory feedback will include details such as the car's position, starting and ending points, the entire path traveled, and a highlighted region indicating the selected subset of interpolated points for controller updates.
- Face detection:** Created a face detection application by leveraging my facial image data and implementing a Siamese neural network.
- Electric vehicle simulation - Matlab:** Mathematical modelling of Electric vehicle. FOC Algorithm and SVPWM method for PMSM. Developed custom Vehicle and Brake Control Units. Tested with UDDS drive cycle.
- SOC estimation of cell with Kalman Filter:** A more accurate battery state of charge estimation method for electric vehicles is developed based on a nonlinear cell model and an Extended Kalman Filter supported by open source experimental data.
- ROS2 Turtlebot Catch turtle:** Each turtle generates at 1 sec frequency. Main turtle catches the nearest turtle at a given time.
- A\* in Gazebo with TurtleBot3 - ROS2 :** In the Gazebo environment, a world is established with static obstacles of diverse sizes. The TurtleBot3, equipped with the A\* algorithm, is configured to navigate through these obstacles, traversing between two designated points.
- Flatlands :** Implemented Depth first Search, Breadth First Search, Dijkstra's Algorithm and A\* in a randomly generated tetromino grid world using pygame and Matplotlib environment.

## TECHNICAL SKILLS

- Languages:** Python, C, C++, SQL, HTML, R
- Technologies:** CV, NLP, RL, Robotics,
- Frameworks:** Tensorflow, OpenCV, Scikit-Learn, Pytorch, CUDA,, ROS, ROS2
- Softwares:** Matlab, SolidWorks, Ansys, Proteus, Unity, Blender
- OpenSource:** Arduino, GitHub, Jenkins, ARM, Gazebo, OpenAI Gym

## CERTIFICATIONS/COURSES

- Coursera:** Machine Learning by Andrew Ng, Deep Learning Specialisation, Tensorflow Data,
- Electives/Courses:** Control Systems, Introduction to Robotics, Image Processing, Machine Learning, Deep Learning, Artificial Neural Networks and Fuzzy Logic, Embedded Systems
- Udacity:** Self Driving Engineer Nanodegree(Ongoing), Robotics Software Engineer Nanodegree(Ongoing).
- Udemy:** ROS2 for Beginners.