

ARKAJYOTI BASAK

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EDUCATION

THAPAR INSTITUTE OF ENGINEERING & TECHNOLOGY

B.E. in Mechanical Engineering

Patiala, India

2018-2022(Expected)

WORK EXPERIENCE

OPEN SOURCE DEVELOPER, UNIVERSIDAD REY JUAN CARLOS, SPAIN Feb'21-Present
JdeRobot develops framework based on ROS, Docker & Django to simplify learning AI/CV

- Created new exercise: Drone Package Delivery.
- Maintainer of the drone section.

GOOGLE SUMMER OF CODE - JDEROBOT May'21-Aug'21

- Built RADI-3.1 (Robotics Academy Docker Image) for ROS1 Noetic. [\[LINK\]](#)
- Extended 9 RoboticsAcademy exercises from ROS node to web-based template.
- Python, C++, ROS, HTML/CSS, VanillaJS, Docker, OpenCV

FREELANCE NLP @ ATALKI.COM Feb'21-March'21

- Developed an algorithm to break long sentences into short multiple sentences. [\[LINK\]](#)
- PyTorch, T5-Transformer, NLTK, Dependency Parser, TF-IDF Vectorizer

LA FONDATION DASSAULT SYSTÈMES, INDIA Feb'21-Aug'21

- Designed and analyzed a foldable motorcycle helmet.
- 3DEXPERIENCE, SolidWorks, xDesign, SIMULIA

PROJECTS

SLAM BASED ON EKF, UKF, PARTICLE FILTER 2021

- WIP [\[LINK\]](#)

DRONE 3D MAPPING & NAVIGATION 2021

- WIP [\[LINK\]](#)

ROBOTICS ACADEMY EXERCISES 2021

- Obstacle Avoidance: Local navigation with Virtual Force Field algorithm. [\[LINK\]](#)
- Localized Vacuum Cleaner: 2D Grid based Coverage Path Planning algorithm. [\[LINK\]](#)
- Line Following Robot: PID Controller [\[LINK\]](#)

AI LEARNS TO PARK 2020

- Developed an algorithm for a car to self-park in a parking lot using modified Rainbow-DQN.
- Implemented using Unity3D, Python, C# [\[LINK\]](#)

LINE FOLLOWING ROBOT USING NVIS3302ARD 2019

- Project completed as a part of ED2, CSE Department, TIET.
- Worked on Arduino ATmega 328P, gyroscope, accelerometer, IR, ultrasonic, and zigbee.

SKILLS

Python

Unity3D

Blender

C++

OpenCV

Html

Bash

PyTorch

Css

ROS

TensorFlow

VanillaJS

Gazebo

SolidWorks

Docker