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| MANAN MADAN  Projects \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   * Learning Perspectives:   >Implemented K-Means, K-Modes clustering on real-world categorical data​  >Implemented NLP Techniques, such as chunking, chinking, etc.   * VISTA:   >Implemented Web-Scraping using requests,urllib, and beautifulSoup  > Also implemented several graph algorithms to extract meaning information from structured data   * OpenPi Bot**:**   >Coded a differential drive mobile robot in Gazebo  > Implemented ROS Navigation Stack   * Kinodynamic Path Planning   >Coded a Path Planner Inspired from the A \* Star Algorithm that takes into account robot’s kinetic constraints  > Simulated it in OpenCV   * Lane Detection:   > Lane Detection using Canny Edge Detection, masking and contour detection from the footage of the DASH-CAM of the car  Work Experience \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Research Intern  NSIT,Delhi  April 2020 - July 2022   * Implement several​ clustering​ algorithms for clustering real-world   categorical data   * Studied and implemented different types of ​ encoding​ and ​ decoding techniques to process data * Worked on several algorithms and tools for natural language   processing and web-scraping such as ​ chunking, chinking, regex  parser​ , etc.  Software Lead  Team ARES Robotics, Delhi​  August 2018 - Present   * Implemented full ​ ROS navigation stack​ on simulation as well as on   hardware platform   * Implemented and Tested AMCL ( ​ Adaptive Monte Carlo Localisation​ ) using ROS * Implemented the ​ Extended Kalman Filter​ for fusing the output of   the various sensor in order to accurately localize the robot   * Coded an ​ autonomous differential drive robot​ with various sensors such as Depth Camera, IMU, GPS, from scratch in ​ Gazebo​. | Education  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Netaji Subash Institute of Technology, Delhi  University of Delhi  2018-2022  BE Instrumentation and Control  CGPA - 7.52 (Upto 3rd sem)  Contact  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Phone: 8929250041  Email: madan.manan1@gmail.com  Visit: github.com/mananmadan  LinkedIn: [manan-madan-646950167](https://www.linkedin.com/in/manan-madan-646950167/)  Skills  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Languages: C,C++,Python  Robotics: ROS, GazeboSensor Fusion, Kalman Filters, OpenCV, Perception ( RANSAC, PointCloud Filtering, Object Detection)  Path Planning  Frameworks: NLTK, Spacy, Pandas, Matplotlib, Networkx, BeautifulSoup, TextBlob, Regex  Certifications  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  C++ and Data Structures  > By Coding Ninjas  Data Structures  > By UCSD  Algorithms and Data Structures  > By UCSD  Algorithms on Graph  > By UCSD  Arduino Programming  > By Udemy  Achievements and Awards  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  > Came in 10th place in Indian Rover Championship  > Top 1% in JEE Advanced 2018 |