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ROS internship

Guided learning Assigment 3

1. Jackal UGV is an unmanned ground developed by clear path robotics. Jackal is a small, fast, entry-level field robotics research platform. It has an onboard computer, GPS and IMU fully integrated with ROS for out-of-the-box autonomous capability. As with all Clearpath robots, Jackal is plug-and-play compatible with a huge list of robot accessories to quickly expand your research and development.

Following are the features:

## TURNKEY

Jackal's onboard PC comes fully equipped so you can quickly sync ROS with an RVIZ GUI and Gazebo model. Skip weeks of setup and jump straight into your research with Jackal's extensive demo code. With wireless connectivity via Bluetooth and wifi, Jackal is ready to go every time you turn it on.

## POWERFUL & COMPACT

Add sensors, cameras and other accessories to Jackal's simple mounting platform. Use the 5V, 12V or 24V power options and easily connect cables to the internal onboard PC. Looking to expand? The internal area is available for additional computing power or storage.

## ALL-TERRAIN & WEATHERPROOF

Jackal is built from a sturdy aluminum chassis made with a high torque 4×4 drivetrain for rugged all-terrain operation. It has an IP62 weatherproof casing and is rated to operate from -20 Celsius or +45 Celsius. All connections pass through a compressed-foam cable management port for communicating with external payloads without needing a complex seal.

## CUSTOMIZABLE

Choose from an extensive list of compatible sensors, cameras and other accessories to integrate via Jackal's simple mounting interface. Use the 5V, 12V or 24V power options and easily connect to the internal onboard PC. The internal area is available for additional computing power or storage.

2. ARI is a high-performance robotic platform developed by PAL robotics designed for a wide range of multimodal expressive gestures and behaviors, making it the ideal social robot and suitable for Human-Robot-Interaction, perception, cognition, navigation, and interaction. Its behavior can be customized using the provided, easy to use, web interface. You can also dive deeper and integrate it thanks to its extensive ROS API to easily develop, simulate and deploy application on the robot.

Features

1. Learning
2. Deep Learning
   Imitation Learning
   Motion planning
3. Vision
4. 3D Perception
   Face and object recognition
   Automatic video analysis
5. Social
6. Human-Robot Interaction
   Emotion Recognition
   Safety / ethics
   Natural Language Processing
7. Smart Cities and IoT
8. Data Analysis
   Biometric data
   Environment data
9. Recommendation system
10. Personalization
    Cognitive robotics
11. 
12. 100% ROS
13. Open platform
    Logging and monitoring