Team Name: sdmay24-31
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Report Period: Sept 25 - Oct 8

1. Develop skills with data visualization and labeling tools

    a. MATLAB Lidar Labeler
        i. The main tool for labeling data
            1. Worked with Coover data to practice labeling
        ii. Needs to be in LAS format to be imported into this tool
        iii. Labeled data in PLY
    b. Exporting data in different formats
        i. LVX to CSV and LAS / LAZ
            1. Livox viewer used to see initial data and then used to export
    c. PyLAS is used to extract information about the different data formats
    d. Deep Sense 6G data - Scenario 32
        i. Practiced working with different data sources
            1. Different sensor
            2. Different data format
    e. Cloud compare
        i. Cloud compare is used to visualize 3D LiDAR point clouds
        ii. It uses many commonly used formats for point-cloud data, making it very versatile.

2. Machine Learning Knowledge:

    a. Discussed machine learning concepts, including linear regression and finding the line of best fit.
        i. Mentioned dealing with outliers, mean average error, and mean square error.
    b. Described using 80% of the data for training and 20% for testing.
    c. Mentioned machine learning libraries like Keras, TensorFlow, and Scikit Learn.
    d. Briefly touched on activation functions like Re-Lu and Leaky Re-Lu.
    e. Mentioned types of neural networks:
        i. deep reinforcement learning
        ii. convolutional neural networks
        iii. generative adversarial networks.

3. Meeting on Task Decomposition:

    a. Tasks should be step-by-step processes.
    b. Milestones should be quantitative, not qualitative.
    c. Consider risk management and backup plans for tasks with risks.
    d. Created a Gantt chart for task scheduling.