
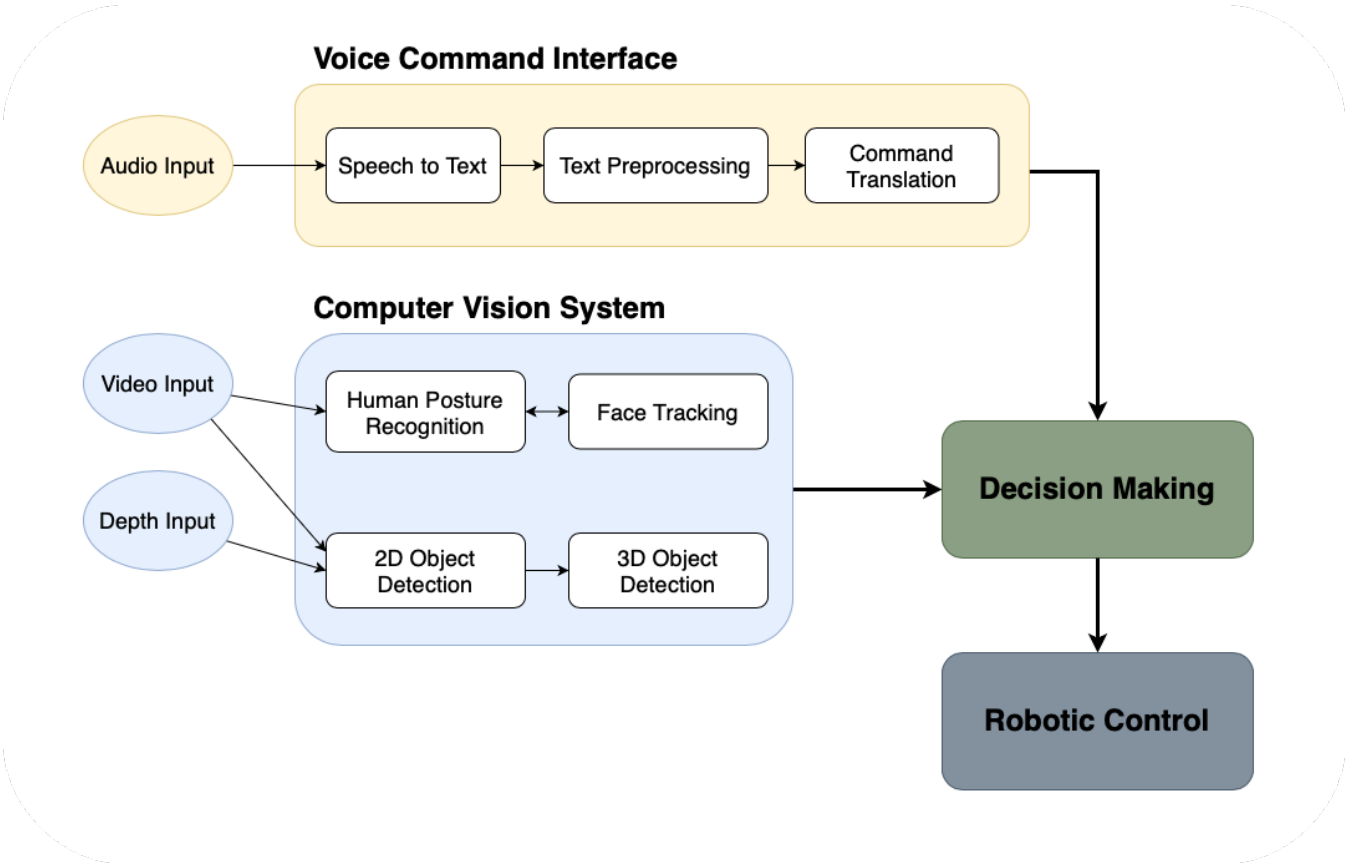


# System Architecture Overview

## System Architecture

 Given the limited time and after considering various factors, the project scope was adjusted as detailed in [Project Scope Adjustment](#).  
As a result, this project will focus on the development of modules of **Voice Command Interface** and **Computer Vision System**.



## Features & ROS2 Nodes

Features of each module are designed to be achieved by multiple ROS2 nodes to reduce the complexity of the overall system and improve the feasibility of future development.

Module	Feature	ROS2 Node
Voice Command Interface	Audio Recording	<i>app</i>
	Speech to Text	<i>s_to_t</i>
	Text Preprocessing	
	Command Translation	<i>t_analysis</i>
Computer Vision System	2D Object Detection (YOLO Object Detection)	<i>yolo_detector</i>
	3D Object Detection (Distance Estimation)	<i>realsense_depth_estimator</i>
	Human Posture Recognition	<i>openpose_node</i>
	Face Tracking	