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Robotics HW 4 Algorithm Explanation

This algorithm attempts to process the nine images given and create a navigation path for a mobile robot. The algorithm divides parts of the image into 3 sectors: straight, left, and right matrix. The robot knows it starts in the beginning of the map, then each corresponding pixel once it begins to move from the beginning. The robot looks at a 20x20 matrix of pixels that range in the x-direction at + and – 10 cells from its current position. For the left plane it looks at the cells in the -30 to -10 range on the x-axis, and in the +10 to +30 range on the x-axis for the right pixel matrix. It sums up these three matrices and averages them out. Once averaged, the program picks the “best” matrix. It moves up and straight, left, or right. Once it does that, the robot “scans” again until completion… Or until it takes off into the sky.