Algorithm:

- Each object is represented as a point in an NxN grid.
- Every possible board configuration is represented as a Node.
- Using the A* algorithm, we find the shortest path from initial configuration to the goal configuration.

Limitations:

- The arm cannot grab the object.
- The arm cannot move an object that is behind another object.
- The arm movement is limited by its joints and its length.
- The solution algorithm can only move one object at a time.

Abstract:

The ability to grasp and manipulate objects is essential for many robotics tasks. However, the needed objects may not be directly accessible by the robot, and grabbing them may require rearranging the location of other objects. In this project, we develop a system for rearranging objects on a grid in order to allow the arm access for a target object.