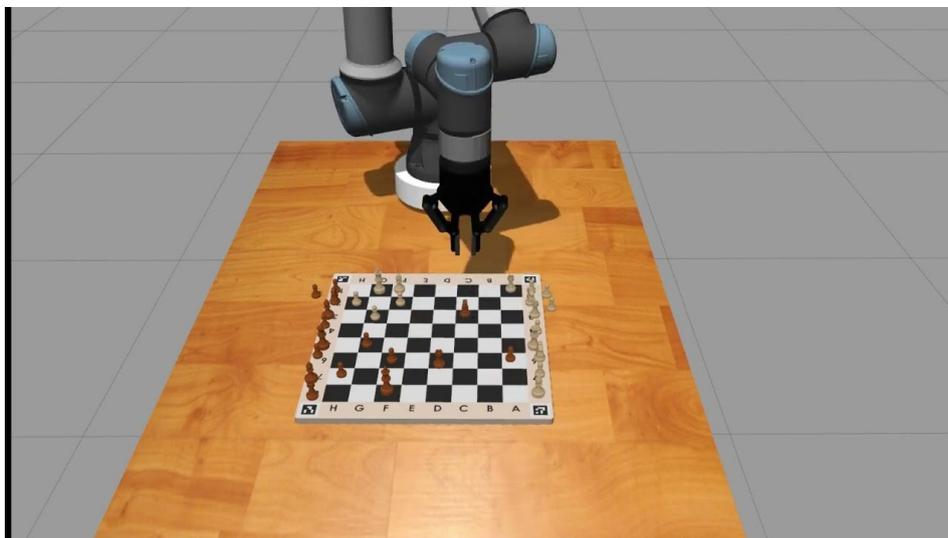


Robot Manipulators and Automation

AUTO4507

Lab Assignment 3 – *Individual* – Serial Robot Points: (2+3)+(5) = 10

Make yourself familiar with the UR5 robot documentation and the interfacing via Ethernet.



<https://www.youtube.com/watch?v=-2DX1R98WTc>

Experiment 1 – Moving in Space and picking up pieces

- Move the robot arm to each corner of the board
- Pick up the white pawn on B2.
- Move the pawn to B4 and put it down again.
- Try picking up every piece above the height of all other pieces on the board.

Experiment 2 – playing chess

Use the stockfish python AI to get new movements for the current board layout. Display the current state of the board on your laptop. Using what you have learnt from experiment 1 move the chess pieces using the moves from stockfish AI. If a piece is to be taken, remove the piece that is lost first then

move the taking piece to the location. You need to ensure that you don't knock over other pieces while picking up and moving the pieces around the board.