

Colin Rubow

Machine Learning

Project Selection

Project Team:

The project choice will be exploratory.

Project Proposal:

I will be the only member on my team.

The problem I want to address is a problem my lab has. We have a robot in our lab that we would like to control but we have a problem. The problem is that the forward kinematics are difficult. It is possible an analytical solution exists, however, we have been unable to find one. The proposal is to use machine learning to learn the kinematics. That way, given the motor angles, we know the position and orientation of the end effector. Or vice versa. One interesting aspect of this solution is that overfitting is encouraged, because, we can perform experiments to obtain close to the entire population of examples. We can also experiment with adding a little bit of noise to make the model more robust as well.