



USC University of
Southern California

Research Opportunity

We are looking for a masters or undergraduate student to join a research project which is investigating sampling based model predictive control for robotic manipulation.

You will be leading the construction of the Real2Sim system. This system will do the following:

1. Create a simulation matching what the robot is currently observing in the real world
2. Update the simulation parameters given outcomes observed in the physical world

Note that this is an active area of research without hardened tools which means you will be responsible for exploring and evaluating different approaches.

Some more details:

1. This project will be submitted to ICRA 2026, or RSS 2026. You will be included in the author list if you meaningfully contribute to the project. Authorship order will be determined before the deadline based on effort.
2. The submission deadline for ICRA 2026 is ~September 15. It's expected that you'll be able to stay involved in the project until then

Experience, required:

1. Linux / Ubuntu
2. Python

Experience, nice to have:

1. Robotics basics (transformations, FK, IK, configuration space vs. workspace)
2. Experience with simulators, especially those designed for robot learning such as ManiSkill

Please email me at morganje@usc.edu if you are interested in this position!

- Please use the subject "[MPC-Real2Sim] First-name Last-name Application"
- Include your resume, linkedin, and website if you have one. Also include a quick blurb about yourself as well as a brief description of relevant experience

Jeremy Morgan
<http://jeremymorgan.io>
morganje@usc.edu