# Major Research Area Paper Presentation

## Systems and Methods for Learning Robot Manipulation Skills
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## For the Ph.D. degree in Computer Science and Engineering

Teaching robots how to autonomously manipulate objects is one of the most challenging problems the robotics community faces. Recent trends in robotics have shown an increase in research on manipulations for human environments where robots can perform tasks humans need assistance with or have difficulty to perform, e.g., cooking. In a kitchen, pouring and mixing are the most executed manipulations apart from pick-and-place. Several works related to robotic pouring have been proposed in the last few years. Most of them have focused on accurately pouring liquids and granular materials. On the other hand, research in robotic mixing has been scarce. In this presentation, we will focus on the introduction of different systems and methods to teach robots how to perform such types of manipulations. Our methods are based on deep learning approaches that leverage different sensor modalities for closed-loop control and have been explored both in simulation and real scenarios.

_Examining Committee_