Objective
Conduct an experimental evaluation of different learning strategies for learning interactive tasks in simulation

Project Details
Under the assumption that robots can learn how to interact with humans in simulation, this project aims at evaluating and comparing different learning strategies. Given a generative model from which simulated humans can be sampled, we want to empirically determine which training regime/strategy results in the best performance both in simulation and with real users. Three strategies will be compared:

1. Random, uniform sampling of all the parameters in the generative model
2. Meta-reinforcement learning where each sampled user or group of sampled users is analogous to a different task
3. Curriculum-based learning in which the robot gradually learns from easy-to-predict to hard-to-predict simulated humans (e.g., going from nearly optimal simulated humans to noisy, error prone simulated humans)

In this project, you will help with the implementation of these approaches as well as with the design and development of a human-robot interactive task that can be used both in simulation and with real users. You will later assist with the comparison and evaluation of the listed learning strategies.

Prerequisites
Good programming skills; experience with Python and Deep RL; good communication skills

Additional Information
Applicants may be required to attend an interview