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Rethinking Social Robot Navigation: Leveraging the Best of Two Worlds

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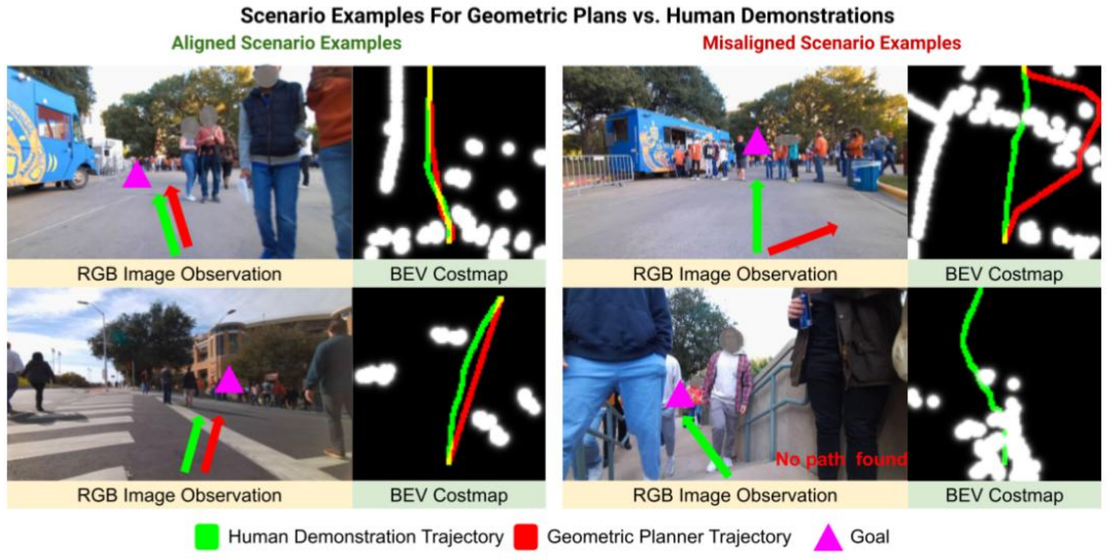
Rethinking Social Robot Navigation

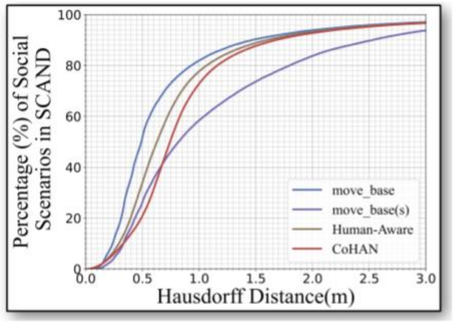
Case study on SCAND



Social compliance definition

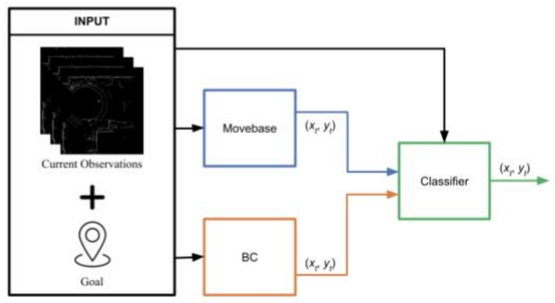
Given a navigation scenario S_t with a human demonstration behavior B_t^D at a time step t, a navigation behavior B_t is socially compliant if $d=||B_t-B_t^D||_D<\epsilon$, where $||\cdot||_D$ is a distance metric and ϵ is a small threshold.

Results

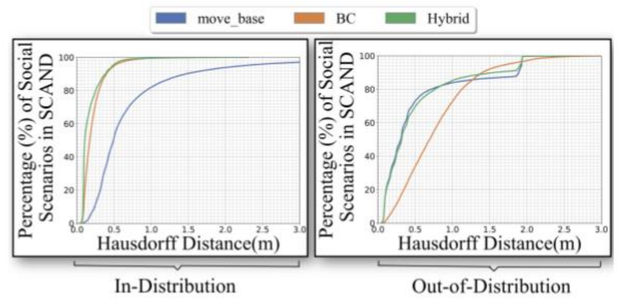


Leveraging the Best of Two Worlds

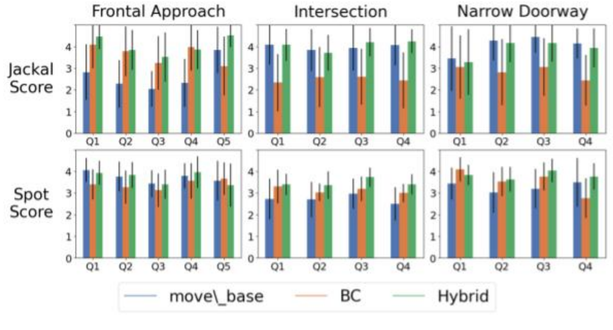
Hybrid approach



Backtesting results



User study results



Robot Experiment