

# Reproducibility in Robotics - The Big 5 Issues

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The range of difficulties that can occur when running an experimental study in robotics is broad. Subjects can behave in unforeseen ways, rendering the experimental scenario inconclusive, or misunderstand questionnaire items or instructions. The robot may exhibit seemingly random physical behaviors, or break down in the middle of the experiment. To increase the intricacy, imagine the experiment being reproduced in another lab, research field, or country by other researchers with a regular research publication as their only starting point.

Furthermore, assume that the publication is in an interdisciplinary research field, like social robotics or HRI, in which authors from different fields often carry different levels of knowledge and disciplinary interest about the social science methodologies, the technical system, and the conceptual background of the work.

Based on my experience in the field, I will introduce and discuss the "big five" issues of reproducible robotics from both, a developer's and also from a reviewer's perspective. The discussed topics range from technical, to methodological, to social aspects of reproducible robotics and are motivated by applied "real life" projects and scenarios.