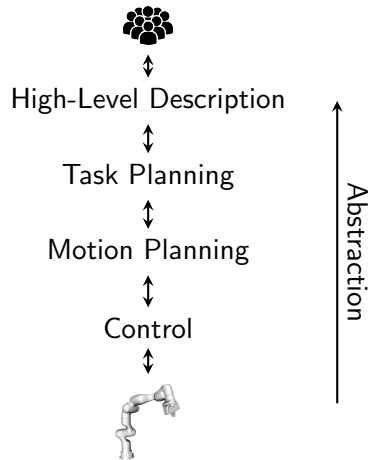
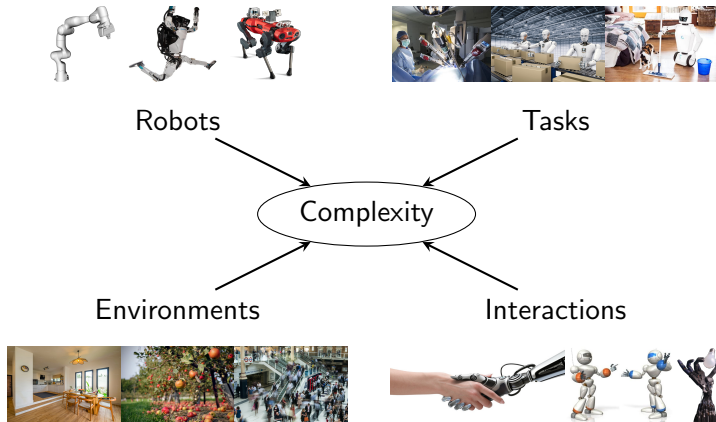


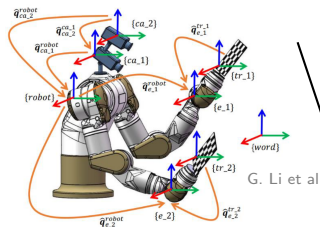
Geometric Algebra for Optimal Control with Applications in Manipulation Tasks



Tobias Löw



Simplifying Abstraction through Unified Mathematical Representation



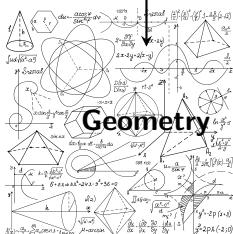
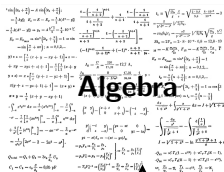
G. Li et al

conversion of representations

violation of assumptions

singularities

discontinuities



unified mathematical representation

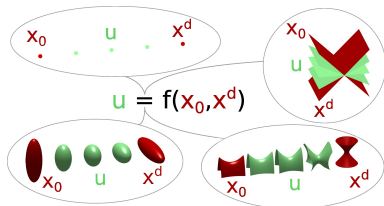


common algebraic structures

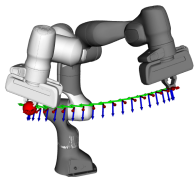


same abstractions

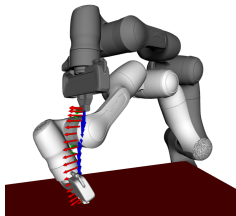
Geometric Algebra



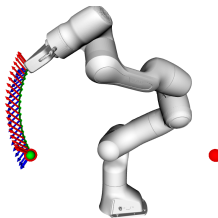
Geometric Algebra for Uniform Modeling of Manipulation Tasks



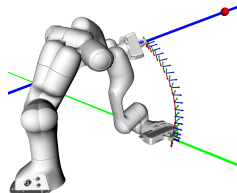
Point tracking



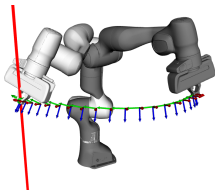
Plane tracking



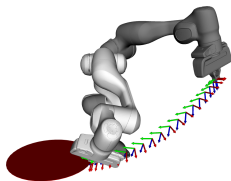
Option Point 1



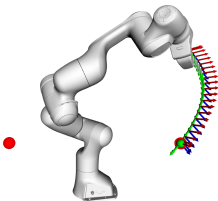
Pointing



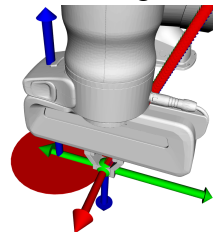
Line tracking



Circle tracking



Option Point 2



Constraints