

A Real-time Control and Simulation Core for various Robot Architectures

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Abstract: Robot platforms come with diverse hardware and inspire different research goals generating a broad spectrum of requirements on robot software architectures. Even though individual architectures will be inevitable, implementation of research ideas and maintenance of several robots quickly becomes intractable, if they do not reuse common software components. Various robots in our laboratory and other research groups have been controlled with SL, a real-time control and simulation platform. It comes with code generation facilities for forward and inverse dynamics on different fixed- and floating-base robots and was developed through out various research projects with very different use cases. In my talk I will present the core features of SL and explain applications to whole-body control and dual-arm manipulation platforms.