

Robotics System Toolbox™

Getting Started Guide



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R2020b



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Product Overview

Robotics System Toolbox Product Description

Design, simulate, and test robotics applications

Robotics System Toolbox provides tools and algorithms for designing, simulating, and testing manipulators, mobile robots, and humanoid robots. For manipulators and humanoid robots, the toolbox includes algorithms for collision checking, trajectory generation, forward and inverse kinematics, and dynamics using a rigid body tree representation. For mobile robots, it includes algorithms for mapping, localization, path planning, path following, and motion control. The toolbox provides reference examples of common industrial robot applications. It also includes a library of commercially available industrial robot models that you can import, visualize, and simulate.

You can develop a functional robot prototype by combining the kinematic and dynamic models provided. The toolbox lets you co-simulate your robot applications by connecting directly to the Gazebo robotics simulator. To verify your design on hardware, you can connect to robotics platforms and generate and deploy code (with MATLAB® Coder™ or Simulink® Coder).