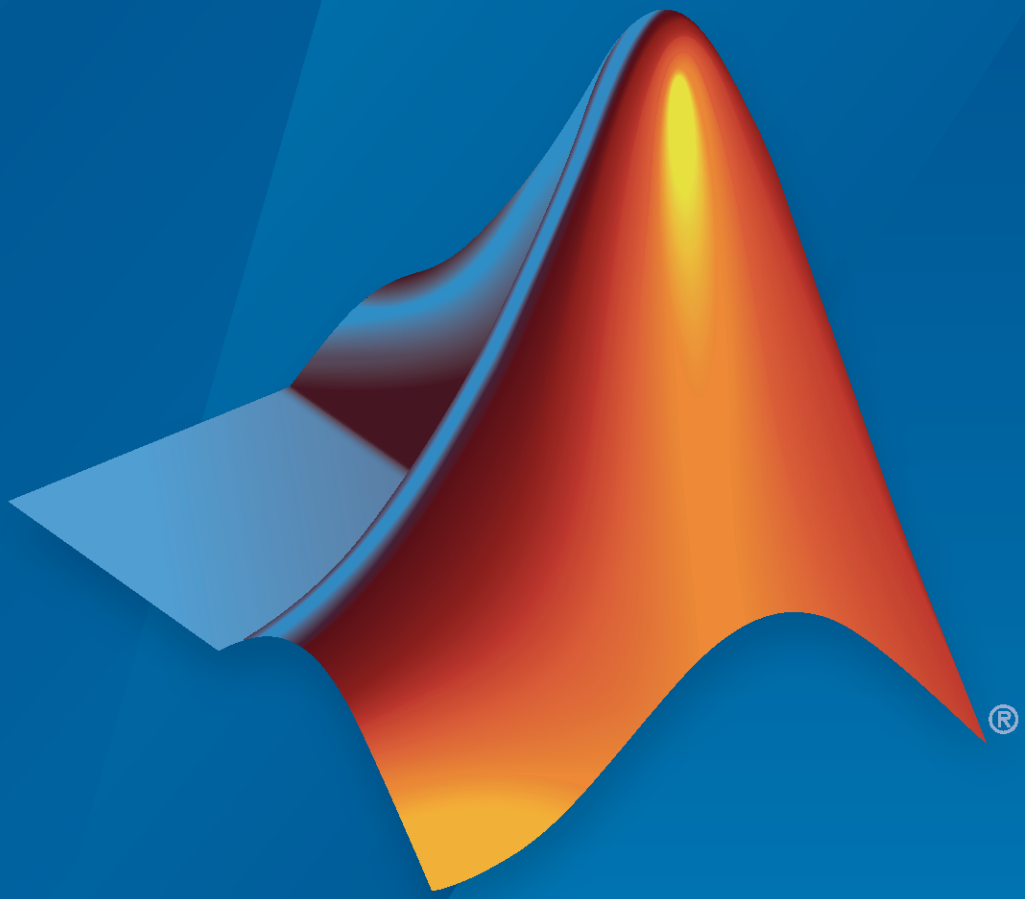
Navigation Toolbox™

Getting Started Guide



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The MathWorks, Inc.
1 Apple Hill Drive
Natick, MA 01760-2098

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Revision History

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September 2020	Online only	Revised for Version 1.2 (R2020b)
March 2021	Online only	Revised for Version 2.0 (R2021a)

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Product Overview

Navigation Toolbox Product Description

Design, simulate, and deploy algorithms for autonomous navigation

Navigation Toolbox™ provides algorithms and analysis tools for motion planning, simultaneous localization and mapping (SLAM), and inertial navigation. The toolbox includes customizable search and sampling-based path-planners, as well as metrics for validating and comparing paths. You can create 2D and 3D map representations, generate maps using SLAM algorithms, and interactively visualize and debug map generation with the SLAM map builder app. The toolbox provides sensor models and algorithms for localization. You can simulate and visualize IMU, GPS, and wheel encoder sensor data, and tune fusion filters for multi-sensor pose estimation.

Reference examples are provided for automated driving, robotics, and consumer electronics applications. You can test your navigation algorithms by deploying them directly to hardware (with MATLAB® Coder™ or Simulink® Coder).