



6 Courses

Modern Robotics, Course 1: Foundations of Robot Motion

Modern Robotics, Course 2: Robot Kinematics

Modern Robotics, Course 3: Robot Dynamics

Modern Robotics, Course 4: Robot Motion Planning and Control

Modern Robotics, Course 5: Robot Manipulation and Wheeled Mobile Robots

Modern Robotics, Course 6: Capstone Project, Mobile Manipulation



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Harshal Upadhyay

has successfully completed the online Specialization

Modern Robotics: Mechanics, Planning, and Control

This specialization provides a rigorous treatment of spatial motion and the dynamics of rigid bodies, employing representations from modern screw theory and the product of exponentials formula. Students with a freshman-level engineering background will quickly learn to apply these tools to analysis, planning, and control of robot motion. Students' understanding of the mathematics of robotics will be solidified by writing robotics software. Students will test their software on a free state-of-the-art cross-platform robot simulator, allowing each student to have an authentic robot programming experience with industrial robot manipulators and mobile robots without purchasing expensive robot hardware.

Kevin M. Lynch
Professor of Mechanical
Engineering
Northwestern
University

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