

NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Mechanical Engineering - NOC:Robot Motion Planning

Subject Co-ordinator - Prof. Ashish Dutta

Co-ordinating Institute - IIT - Kanpur

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

- Lecture 1 - Introduction
- Lecture 2 - Joints and Degrees of Freedom
- Lecture 3 - Work Volume and Rotation Transformation
- Lecture 4 - Transformations
- Lecture 5 - Kinematics
- Lecture 6 - Bug Algorithms
- Lecture 7 - Configuration Space
- Lecture 8 - C Obstacle
- Lecture 9 - Topology of C Space
- Lecture 10 - Road Map Methods
- Lecture 11 - Cell Decomposition Methods
- Lecture 12 - Sampling Based Planning
- Lecture 13 - Potential Field Methods - I
- Lecture 14 - Navigation Function and Potential Field in 3D
- Lecture 15 - Basic Search Algorithms
- Lecture 16 - Motion Planning with Kinematic Constraints
- Lecture 17 - Controllability
- Lecture 18 - Kinematic Constraints and Multifinger Robot
- Lecture 19 - Multifinger Robot Hands
- Lecture 20 - Optimization in Motion Planning

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