Motion planning and control for autonomous driving

Master Lab in Autonomous driving

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UNIMORE

UNIVERSITÀ DEGLI STUDI DI
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Course contents

- Focus on algorithms

- Two main subjects
  - Motion planning. Optimization-based algorithms
  - Motion control. Path following. Lateral, yaw and longitudinal control

- Preliminaries
  - Intro to Matlab and Simulink
  - Physical modeling. Examples
  - Dynamical systems. Fundamental properties
  - Feedback control systems
  - Model Predictive Control

Fri, Dec 11th	16 - 17	Intro	Matlab and Simulink tutorial
	17-18	Modeling and dynamical systems	
Sat, Dec 12th	9 - 10	Modeling and dynamical systems	
	10 - 11		Response of dynamical systems
	11 - 13	Vehicle modeling	
	14 - 16	CL control and estimation	
	16 - 18	Vehicle motion control	
Sun, Dec 13th	9 -11	Vehicle motion control	
	11- 13		Vehicle motion control exercise session
Sat, Jan 9th	9 - 11		Vehicle motion control exercise
	11 - 13	Motion planning problem formulation	
	14 - 18	Optimization-based motion planning	