
Mapeamento Robótico

Robot Mapping

Coordenador: Dr. Jorge Centeno (UFPR)

Sala: Urano II – 17 de abril – Quarta-feira – 8h30 às 10h40

RESUMO: The concept of “Robot mapping” involves a series of methods aimed at developing techniques that enable mobile robots to perform measurements of the environment as they move within it. For this purpose, a model of the environment is constructed (or may be available from a previous survey) and it is updated as more information is collected. Two main problems need to be solved: the determination of the position and attitude of the mobile platform and the 3D data collection, where photogrammetry plays an important role. The thematic session will first introduce the concept of robot mapping and its applications, such as indoor and outdoor mapping. Alternatives to determine the position and attitude of the robot will be described in a second stage. The SLAM problem will be briefly introduced. The sensors will be introduced, including Lidar, range cameras and video images. Concerning the computation of point clouds from images, the Structure from Motion approach will be briefly explained. Finally, results of scientific research on the theme will be used to show the future trends.

Títulos	Palestrantes	Período
Robot mapping overview	Dr. Jorge Centeno (UFPR)	8:30
The SLAM problem	Dr. Daniel Santos (UFPR)	8:30
Sensors for robot mapping	Dr. Derek Lichti (University of Calgary, Canada)	9:05
Structure from Motion	Dr. Edson Mitishita (UFPR)	9:25
Results and applications	Dr. Charles Toth (The Ohio State University, USA)	9:50
Discussion / Q&A – Closing		10:20