ODOMETRY

Control of Mobile Robots- 2.2 Differential Drive Robots 8:12

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About the Course This course investigates how to make mobile robots move in effective, safe, and predictable ways. The basic tool for achieving this is "control theory", which deals with the question of how dynamical systems, i.e., systems whose behaviors change over time, can be effectively influenced. In the course, these two domains - controls and robotics - will be interleaved and we will go from the basics of control theory, via robotic examples of increasing complexity - all the way to the research frontier. The course will focus on mobile robots as the target application and problems that will be covered include (1) how to make (teams of) wheeled ground robots avoid collisions while reaching target locations, (2) how to make aerial, quadrotor robots follow paths in the presence of severe disturbances, and (3) how to locomotive bipedal, humanoid robots. About the Instructor(s) Magnus Egerstedt is a Professor in the School of Electrical and Computer Engineering at the Georgia Institute of Technology, where he has been on the faculty since 2001. He is an award-winning teacher, with awards from both Georgia Tech and Harvard University. Dr. Egerstedt received the M.S. degree in Engineering Physics and the Ph.D. degree in Applied Mathematics from the Royal Institute of Technology, Stockholm, Sweden, and the B.A. degree in Philosophy from Stockholm University. Dr. Egerstedt's research interests include motion planning, control, and coordination of (teams of) mobile robots, and he is the director of the Georgia Robotics and Intelligent Systems Laboratory (GRITS Lab). Magnus Egerstedt is a Fellow of the IEEE and a recipient of the CAREER Award from the U.S. National Science Foundation.

Stacey Nicholas Dean of Engineering Irvine, CA
Professor Electrical Engineering and Computer Science
Professor (Joint Appointment)
Mechanical and Aerospace Engineering

Control of Mobile Robots- 2.3 Odometry

28,358 views 7:34

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