TEMPLE UNIVERSITY

Spring 2011 Colloquium

Temple University
Computer and Information Sciences

DISTINGUISHED LECTURE:
Registration and Recognition for Robotics

Kurt Konolige

Willow Garage / Stanford University

Tuesday, March 15, 11am, Barton Hall Rm 108A

Abstract:#

Robotic manipulation around the home and office requires perception of the environment and objects within it. In this talk, I highlight the key roles played by visual registration. The first role is in keeping track of where the robot is, and for understanding how multiple views of the environment correspond to each other. The second is in finding and manipulating objects in the world. Registration and recognition methods will be illustrated with examples from Willow Garage's PR2 robot.

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Bio:#

Kurt Konolige is a Consulting Professor Computer Science Department at Stanford University and Senior Researcher at Willow Garage. Dr. Konolige received his PhD in Computer Science from Stanford University in 1984; his thesis, "A Deduction Model of Belief and its Logics," develops a model of belief based on the resource-bounded inferential capabilities of agents. His research interests are broadly based on issues of commonsense reasoning, including introspective reasoning, defeasible reasoning, and reasoning about cognitive state, especially in the context of multiagent systems. Konolige co-developed the Pioneer and AmigoBot robot line and the Saphira robot control architecture. More recently, he has conducted research in fuzzy control for reactive systems; in constraint-based planning and inference systems; in reasoning about perceptual information; and in realtime robotics and vision systems. Before joining Willow Garage he was a Senior Computer Scientist at the Artificial Intelligence Center of SRI International.

About Willow Garage Inc.:

Willow Garage (WG) develops hardware and open source software for personal robotics applications. By investing in open source and open platform adoption models, WG aims to lay the groundwork for the use of personal robotics applications in everyday life. Willow Garage is a team of experts in robot design, control, perception, and machine learning, with both a strong theoretical background and a demonstrated drive to produce practical systems. Researchers provide an institutional expertise to ensure that Willow Garage stays at the technological forefront of the many depth expertise areas represented in robotic technologies. WG invests time and resources in the areas that they believe will most effectively promote the efficiency of the personal robotics research and development community. WG is committed to open source robotics software and the furtherance of the open source personal robotics community. WG helped found, and continue to contribute heavily to, the robot operating system, ROS.