



PLAN, ACTIVITY, AND INTENT RECOGNITION

THEORY AND PRACTICE

GITA SUKTHANKAR
ROBERT P. GOLDMAN
CHRISTOPHER GEIB
DAVID PYNADATH
HUNG BUI

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AUDIENCE

Academic researchers and industrial researchers in specific application areas such as user interface design and video surveillance systems.

TABLE OF CONTENTS (Brief)

- I. Plan and Goal Recognition
- II. Activity Discovery and Recognition
- III. Modeling Human Cognition
- IV. Multiagent Systems
- V. Applications
 - a. Probabilistic plan recognition for proactive assistant agents
 - b. Recognizing Player Goals in Open-Ended Digital Games with Markov Logic Networks
 - c. Using Opponent Modeling to Adapt Team Play in American Football
 - d. Intent Recognition for Human-Robot Interaction

Plan, Activity, and Intent Recognition

Edited by: **Gita Sukthankar** Assistant Professor, University of Central Florida
Christopher Geib Associate Professor, Drexel University
Hung Bui Prin. Scientist, Lab. for Natural Language Understanding, Nuance
David Pynadath Research Scientist, Institute for Creative Technologies, USC
Robert P. Goldman Staff Scientist, Smart Information Flow Technologies LLC

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Gathers together core knowledge with the latest research and provides a single reference source for researchers

"This book collects some of the top senior people in the field of plan recognition with some of the newest researchers. It offers a comprehensive review of plan recognition from multiple viewpoints, encompassing both logical and probabilistic formalisms and covering mathematical theory, computer science applications, and human cognitive models."

—Dr. Peter Norvig, Director of Research at Google Inc.

KEY FEATURES

- Combines basic theory on algorithms for plan/activity recognition along with results from recent workshops and seminars
- Explains how to interpret and recognize plans and activities from sensor data
- Provides valuable background knowledge and assembles key concepts into one guide for researchers or students studying these disciplines

DESCRIPTION

Plan recognition, activity recognition, and intent recognition together combine and unify techniques from user modeling, machine vision, intelligent user interfaces, human/computer interaction, autonomous and multi-agent systems, natural language understanding, and machine learning. *Plan, Activity, and Intent Recognition* explains the crucial role of these techniques in a wide variety of applications including:

- personal agent assistants
- computer and network security
- opponent modeling in games and simulation systems
- coordination in robots and software agents
- web e-commerce and collaborative filtering
- dialog modeling
- video surveillance
- smart homes

In this book, follow the history of this research area and witness exciting new developments in the field made possible by improved sensors, increased computational power, and new application areas.

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