

## Call for Participation

# 1997 Robot Building Lab (RBL-97)

July 27-28, 1997 • Providence, Rhode Island

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**W**here does the AI meet the road? At the 1997 AAAI Robot Building Lab. At this event, participants will spend the day learning about how AI can (and can't) be integrated into the world of mobile robots. Most of the day will be hands-on: building and programming small mobile robots to do a variety of tasks.

Much of the current AI research deals with the actions of embedded agents. In this course it will become apparent that simulations of an agent's environment are often inadequate for effective evaluation of systems. The RBL will give the attendees the necessary information to start embedding their systems in physical agents — mobile robots that can interact with realistic environments.

### Topics

Material to be covered:

- Realistic vs idealized robots
- Major components of robot systems
- Sensor and effector integration
- A crash course in behavior control programming
- Everything an AI researcher needs to know about PID
- Vendors and suppliers for getting robots into your lab or home

Unlike previous RBLs, functional mechanical modules will be available from the start. Participants will be able to spend their time designing and programming the robot, with only a bare minimum of LEGO-hacking to get their robots to move reliably. (Plenty of LEGOs will be available for those who want to LEGO hack).

The lab will be structured as follows: We'll begin with a brief tutorial on sensors, effectors and robot capabilities to get everyone up to speed. Then comes the actual robot building. Throughout the day there will be a series of short tutorials, both for individual teams and for the group as a whole, on particular aspects of robot building and programming.

The next day, all the robots will be displayed in the arena to show off their special capabilities and to compete head to head in a contest of speed and intelligence. This exhibition will be open to all of the conference attendees.

### Goals

The goals of this lab event are to:

- Give all participants exposure to the intricacies of melding AI and robotics.
- Show the value of performing AI experiments on physical devices
- Familiarize the participants with the current robotic experimental technology
- Give everyone a chance to play with AI that they can get their hands around.

### Target Audience

This lab is aimed at AI researchers and practitioners who want to move their systems out of simulations and into the physical world. A basic understanding of common AI techniques and programming languages will be assumed.

This lab is being organized and taught by the KISS Institute for Practical Robotics (KIPR) for AAAI. Instructors and assistants will come from KIPR's trained staff. Dr. David Miller will be the lead instructor.

For more information about this event contact AAAI at [ncai@aaai.org](mailto:ncai@aaai.org) or David Miller at [dmiller@kipr.org](mailto:dmiller@kipr.org). Registration information will be available in the spring.