



## **Mobile Robotic Car Design**

278 pages

### ***From the Back Cover:***

This thoughtful guide gives you complete, illustrated plans and instructions for building a 1:10-scale car robot that would cost thousands of dollars if bought off the shelf. But beyond hours of entertainment and satisfaction spent creating and operating an impressive and fun project, *Mobile Robotic Car Design* provides serious insight into the science and art of robotics. Written by robotics experts, this book gives you a solid background in electrical and mechanical theory, and the design savvy to conceptualize, enlarge, and build robotics projects of your own.

In these pages, robot designers Pushkin Kachroo and Patricia Mellodge will help you --

- Build an impressive robot vehicle that can regulate its own speed and direction, for a cost of about \$1000.
- Give your robot car the ability to sense and respond to the environment
- Experiment with automatic cruise control that alters speed to meet conditions
- Learn what it takes to build a security robot that can patrol actively or passively
- Grasp the theory and principles behind robot design and operation
- Learn what makes servos, sensors, motors, and controls work
- Examine the source code for the PIC microcontroller and the DSP (digital signal processor)
- Find free code for the car's printed circuit board at the companion website
- Get a complete parts list and list of parts suppliers

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### ***About the Authors***

Dr. Pushkin Kachroo (Blacksburg, VA) is an Associate Professor in the Bradley Department of Electrical and Computer Engineering at Virginia Tech. He has a Ph.D. degree from University of California, M.S. degree from Rice University, and Business Technical degree from I.I.T. Bombay. He obtained the P.E. license in 1995 from the state of Ohio. Dr. Kachroo is the author of three books and has published about 75 papers in scientific journals and conferences.

Patricia Mellodge (Blacksburg, VA) received her Bachelors degree in Electrical Engineering from the University of Rhode Island in 1998. Upon graduating, Patricia took a job with Optigain, Inc. in Peacedale, RI, where she designed analog control circuits for use in the companys fiber optic amplifiers. In the fall of 2000, Patricia moved to Blacksburg, VA to join the Bradley Department of Electrical Engineering at Virginia Tech. She received her Masters degree in May 2002 and is currently pursuing a Ph.D. in the area of mobile robot control at Virginia Tech.