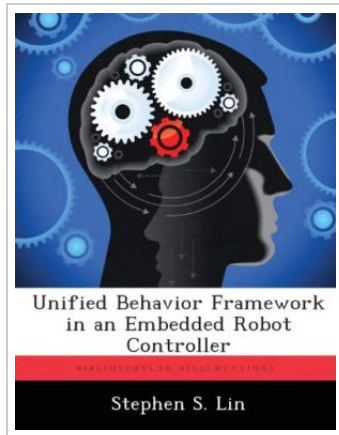




Unified Behavior Framework in an Embedded Robot Controller (Paperback)

By Stephen S Lin

Biblioscholar, United States, 2012. Paperback. Condition: New. Language: English . This book usually ship within 10-15 business days and we will endeavor to dispatch orders quicker than this where possible. Brand New Book. Recent technological advances produce small, inexpensive, embedded hardware platforms that are powerful enough to match robots from just a few years ago. The Unified Behavior Framework is a flexible, responsive control architecture that has not been applied on embedded systems in robots. This thesis presents a development of the Unified Behavior Framework on the Mini-WHEGSTM, a biologically inspired, embedded robotic platform, which is a small robot that utilize wheel-legs to emulate cockroach walking patterns. Wheel-legs combine wheels and legs for high mobility without the complex control system required for legs. Also included is a color camera and a rotary encoder, enabling the Mini-WHEGSTM to identify color objects and track its position. A hardware abstraction layer designed for the robot in this configuration decouples the control system from the hardware and and provide the interface between the software and the hardware. The result is a highly mobile embedded robot system capable of exchanging behavior modules with much larger robots while requiring little or no change to the modules.



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