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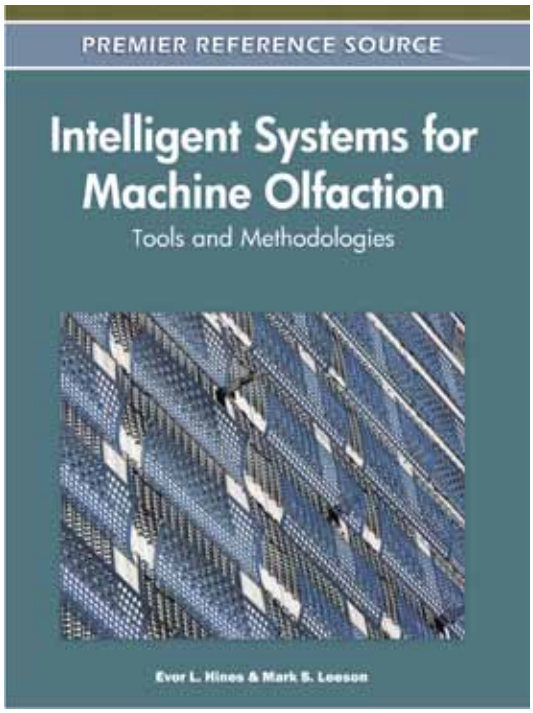
Intelligent Systems for Machine Olfaction: Tools and Methodologies



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Intelligent systems are systems that, given some data, are able to learn from that data. This makes it possible for complex systems to be modeled and/or for performance to be predicted. In turn, intelligent systems' functionality can be controlled through learning/training, without the need for a priori knowledge of their structure.

Intelligent Systems for Machine Olfaction: Tools and Methodologies introduces new, state-of-the art applications of intelligent systems to researchers and developers in the area of machine olfaction. Readers will benefit from in-depth analyses of fundamental theories, potential trends, and key literature in the field, making this work both a source of application examples that can be readily implemented and a practical guide for the implementation of solutions in other scenarios.

Topics Covered:

- Computational intelligence
- Evolutionary algorithms
- Gas dispersal models
- Gas distribution modeling
- Gas source localization
- Image content description techniques
- Kernel methods
- Mobile robot
- Sensor selection
- Teleolfaction

Market: This premier publication is essential for all academic and research library reference collections. It is a crucial tool for academicians, researchers, and practitioners and is ideal for classroom use.

Evor L. Hines joined the School of Engineering at Warwick in 1984. He was promoted to Reader in 2005 and to a personal chair in 2009. He obtained his DSc (Warwick) in 2007 and is a Fellow of both the Institute of Engineering and Technology and the Higher Education Academy, in addition to being a Chartered Engineer. His main research interest is concerned with intelligent systems and their applications. Most of the work has focused on artificial neural networks, genetic algorithms, fuzzy logic, neurofuzzy systems and genetic programming. Typical application areas include, inter alia, intelligent sensors such as the electronic nose, medicine, non-destructive testing, computer vision, and telecommunications. He has co-authored in excess of 230 articles and supervised over 30 research students in addition to currently leading the Information and Communication Technologies Research Group in the School of Engineering.

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Leeson Mark S. (University of Warwick, UK)

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