



Karl-Friedrich Kraiss (Ed.)

Advanced Man-Machine Interaction

Fundamentals and Implementation

Series: Signals and Communication Technology

- The authors describe the implementation of modern features of man-machine interfaces
- They offer design guidelines, case studies and they discuss the algorithms for the implementation
- Two easy-to-handle software development environments offer access to extensive public domain software for computer vision, classification, and virtual reality

Contemporary man-machine interfaces are increasingly characterized by multimodality, nonintrusiveness, context-sensitivity, adaptivity, and teleoperability. The implementation of such properties relies on novel techniques in fields such as, e.g., computer vision, speech technology, trainable classifiers, robotics, and virtual reality. This book puts special emphasis on technological aspects of advanced interface implementation. Furthermore it focuses on interface design and usability. For readers with a background in engineering and computer science, most chapters offer design guidelines and case studies, as well as a description of the functioning and limitations of the algorithms required for implementation. In addition, complementary code examples in C++ are given where appropriate. As a special feature the book is accompanied by two easy-to-handle software development environments, which offer access to extensive public domain software for computer vision, classification, and virtual reality. These environments also provide real-time access to peripheral components like, e.g., webcams or microphones, enabling hands-on experimentation and testing.

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