

# Handbook of Research on Human-Computer Interfaces, Developments, and Applications

Part of the Advances in Human and Social Aspects of Technology Book Series

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## Description:

Human Computer Interaction (HCI) is easy to define yet difficult to predict. Encompassing the management, study, planning, and design of the ways in which users interact with computers, this field has evolved from using punch cards to force touch in a matter of decades. What was once considered science fiction is now ubiquitous. The future of HCI is mercurial, yet predictions point to the effortless use of high-functioning services.

The **Handbook of Research on Human-Computer Interfaces, Developments, and Applications** is primarily concerned with emerging research regarding gesture interaction, augmented reality, and assistive technologies and their place within HCI. From gaming to rehabilitation systems, these new technologies share the need to interface with humans, and as computers become thoroughly integrated into everyday life, so does the necessity of HCI research.

## Readers:

This handbook of research benefits the research needs of programmers, developers, students and educators in computer science, and researchers.

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## Topics Covered:

- Bilateral Teleoperation
- Context Aware Systems
- Dynamic Motion Analysis
- E-Learning
- Gesture Recognition
- Gesture-based Interaction
- Machine Learning
- Pain Management
- Smart Tourism
- Virtual Reality

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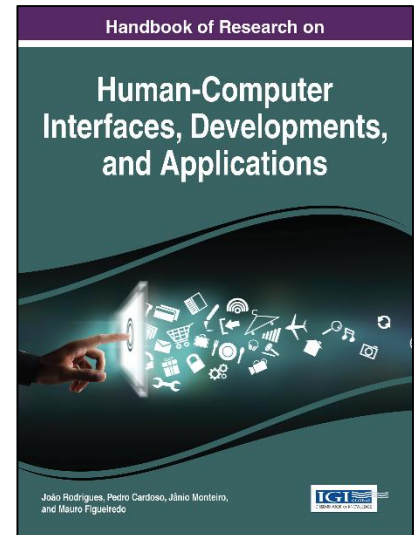
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Professor João Rodrigues graduated in Electrical Engineering in 1993, he got his M.Sc. in Computer Systems Engineering in 1998 and Ph.D. Electronics and Computer Engineering in 2008 from University of the Algarve, Portugal. He is Adjunct Professor at Instituto Superior de Engenharia, also in the University of the Algarve, where he lectures Computer Science and Computer Vision since 1994. He is member of associative laboratory LARSyS (ISR-Lisbon), CIAC and the Associations APRP, IAPR and ARTECH. He participated in 14 financed scientific projects, and he is co-author more than 100 scientific publications. His major research interests lies on computer and human vision, assistive technologies and human-computer interaction.

Professor Pedro Cardoso holds a PhD in the field of Operational Research from the University of Seville (Spain), a Master in Computational Mathematics from the University of Minho (Portugal) and a Degree in Mathematics - Computer Science from the University of Coimbra (Portugal). He teaches Computer Science and Mathematics at the Instituto Superior de Engenharia of the Universidade do Algarve (UALg) and is member of LARSyS/UALg. He has high knowledge in the fields of databases, algorithms and data structures, and Operational Research. Over the past few years has been involved in 7 national and international scientific and development projects and is the co-author of about 40 scientific publications.

Professor Jânio Monteiro graduated in Electrical and Computers Engineering in 1995 from the University of Porto, and later obtained a Master and PhD degrees respectively in 2003 and 2010, also in Electrical and Computer Engineering from Instituto Superior Técnico, Technical University of Lisbon. Since 2003, he has been a member of INESC-ID in Lisbon, where he participated in several European R&TD projects funded by the Information Society Technologies Programme (IST), of the European Commission, namely: Olympic, My-e-Director and Saracen. As part of the Algarve University, he has also participated in an international project called ENERGEIA and several national projects with regional companies. He is co-author of more than three dozen publications, including journal articles, papers in scientific conferences, several book chapters, deliverables of projects and national patents. His main areas of expertise involve communication networks, smart grids and sensor networks or Internet of Things.

Mauro Figueiredo has a PhD in computer science from the University of Salford, Manchester, since 2005. He was teacher at University of Coimbra from 1989 until 1996. Since 1996, he has been at the Algarve University where he is an adjunct professor. His research interests are in the use of information technologies for education, e-learning, b-learning, games and augmented reality. His PhD students are currently working with ebooks and augmented reality tools for e-learning. He is author of more than sixty international journal and conferences articles, book chapters and books and he collaborated and participated in different National projects. He is the international coordinator of the Erasmus+ project MILAGE: Interactive Mathematics by implementing a Blended-Learning model with Augmented Reality and Game books. He has several papers best awards and a school project in augmented reality which has been nationally recognized. He has already organized several international conferences. Most of his research is conducted at the Univ. Algarve, at CIMA (Center of Marine and Environmental Research) and CIAC (Center for the Arts and Communication Research).

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