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Neuro-Rehabilitation with Brain Interface

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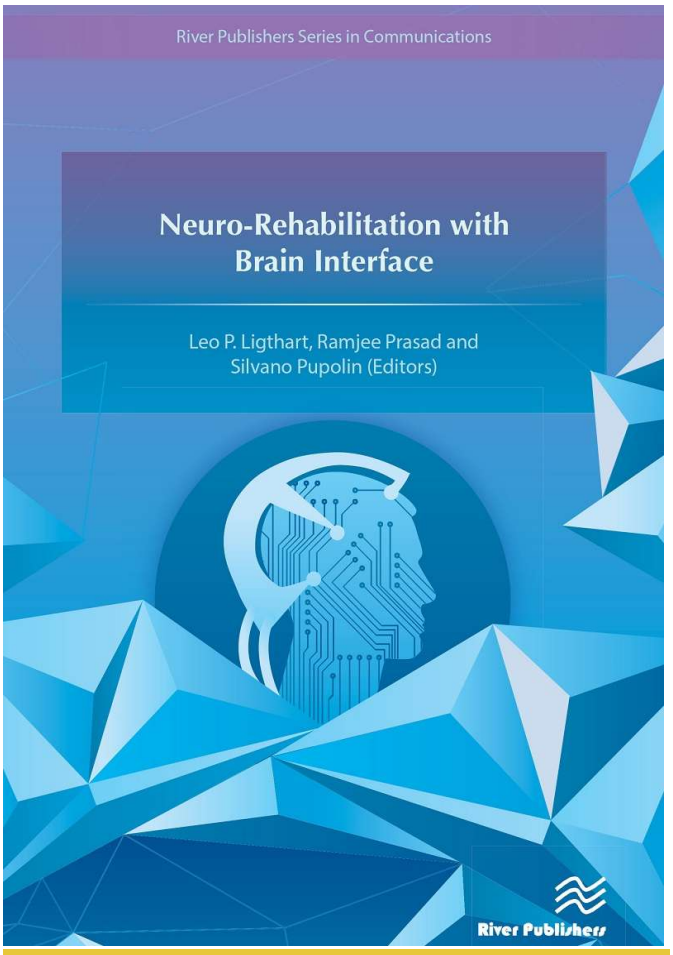
and Silvano Pupolin, University of Padova, Italy

In recent years, major results were reported on Brain-Computer Interface / Brain-Machine Interface (BCI/BMI) applied to rehabilitation in scientific reports and papers. This subject received much attention within the Society on Communication, Navigation, Sensing and Services (CONASENSE) during the period 2013-2015. Describing the state of the art on various BCI/BMI activities related to neuro-rehabilitation is the central theme of this book.

The latest insights coming from neurophysiologists, neuropsychologists, ICT experts specialized in clinical data management and from representatives of patient organizations are elucidated and new ways for “BCI/BMI applied to rehabilitation” using advanced ICT are introduced. The book describes the latest progress in and is an appeal for an approach leading to more cost-saving multi-disciplinary neuro-rehabilitation.

This book covers the following topics:

- Overview on BCI/BMI applied to rehabilitation
- ICT for Neuro-rehabilitation
- ICT for new generation prostheses
- Gaze tracking, facial orientation determination, face and emotion recognition in 3D space for neuro-rehabilitation applications
- Integrated perspective for future wide spread integration of motor neuro-rehabilitation
- Ethical issues in the use of Information and Communication Technologies in the health care of patients with neurological disorders



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Conasense; Neuro-rehabilitation; Brain Computer Interfacing; Brain-Machine Interfacing; Prostheses; gaze tracking; ICT; robotics; Locationing and Positioning; ethics in ICT for neuro-rehabilitation

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