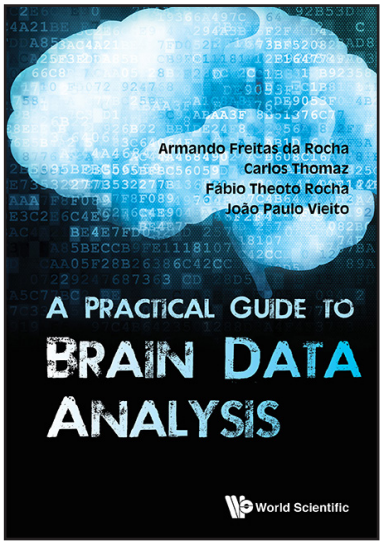
A PRACTICAL GUIDE TO BRAIN DATA ANALYSIS

By **Armando Freitas da Rocha** (*Research on Artificial and Natural Intelligence (RANI), Brazil*), **Carlos Thomaz** (*Centro Universitário da FEI, Brazil*), **Fábio Theoto Rocha** (*Centro Universitário da FEI, Brazil*), **João Paulo Vieito** (*Polytechnic Institute of Viana do Castelo, Portugal*)



Key Features:

- Uses multivariate analysis to study decision making is adequate ecological environments
- Makes EEG data and tools available to check the many hypothesis discussed in the book or to propose exercises
- Provides a concise description of neural phenomena required to the understanding of decision making

Description:

This book was developed to help students and researchers in the fields of economics, finance, law and other social science areas to understand and apply neuroscience. With the use of neuroscience technologies, it is now possible to understand how people make decisions in practice, using friendly and ecological experimental setups. The first half of the book studies the decision-making process and explains how the brain is organized. It presents the brain as a distributed processing system, shows how to record brain activities, and how to combine neurosciences and statistical tools to design experiments. In the last chapters, experiments on stock market decision, dilemma judgment, vote decision and understanding of media propaganda are described and discussed.

Authors:

Armando Freitas da Rocha received his MD in 1970 from the School of Medicine of São Paulo, University of São Paulo, and his PhD on Neurosciences in 1972 from the Institute of Biology, University of Campinas. His present interest is on interdisciplinary frontiers between neurosciences and social sciences. His research employs EEG brain mapping and Loreta analysis to disclose the neural circuits involved in decision-making, learning, problem understanding and solving.

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Contents:

- Introduction
- Decision Making Process
- How the Brain is Organized
- The Brain as a Distributed Processing System
- How to Map the Brain
- How to Make an Experiment with EEG
- Financial Decision Making
- Moral Dilemma Judgment
- Thinking About Firearm Control
- Multivariate Brain Signal Analysis
- Concluding Remarks

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