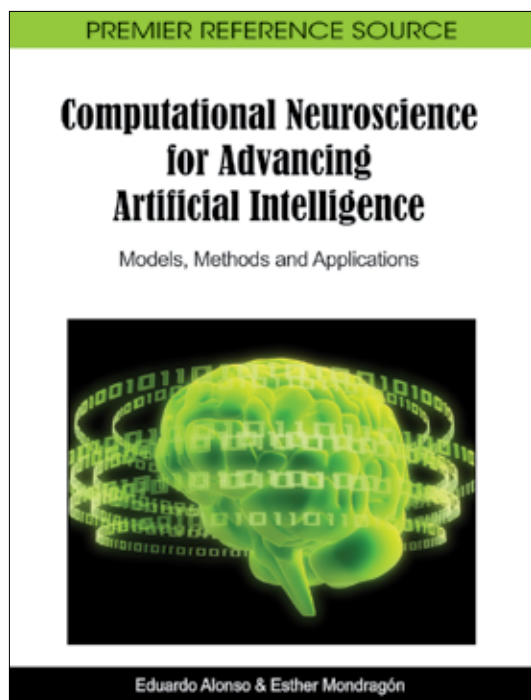


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## Computational Neuroscience for Advancing Artificial Intelligence: Models, Methods and Applications



Eduardo Alonso (City University, UK) and  
Esther Mondragón (University College London, UK)

In recent years there has been increased interest in developing computational and mathematical models of learning and adaptation.

**Computational Neuroscience for Advancing Artificial Intelligence: Models, Methods and Applications** captures the latest research in this area, providing a learning theorists with a mathematically sound framework within which evaluate their models. The significance of this book lies in its theoretical advances, which are grounded in an understanding of computational and biological learning. The approach taken moves the entire field closer to a watershed moment of learning models, through the interaction of computer science, psychology and neurobiology.

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- Analysis of agent behavior
- Artificial neural systems
- Associative learning and memory
- Computational modal of learning
- Computational modeling
- Neural computation
- Neural-symbolic processing
- Pavlovian conditioning
- Reinforcement learning in the brain
- Temporary uncertainty

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**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.

**Eduardo Alonso** is a Senior Lecturer at City University London. He is an expert on Artificial Intelligence in particular on the interdisciplinary bridges between machine learning and animal learning. He has published dozens of papers and contributions to Artificial Intelligence volumes (e.g., in *The Cambridge Handbook of Artificial Intelligence*, to appear in 2010, ISBN-10: 0521871425). His survey paper "AI and Agents: State of the Art", *AI Magazine* 23(3): Fall 2002, 25-30, is still recommended as a general reading at AAAI's AI Topics-Agents. He is the Public Understanding Officer of The Society for the Study of Artificial Intelligence and the Simulation of Behaviour, the eldest learned Artificial Intelligence society in Europe, and a member of the Society for Computational Modeling of Associative Learning. He is also a member of the EPSRC College.

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