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Cambridge University Press
978-0-521-00133-5 - Clinical Applications of Artificial Neural Networks
Edited by Richard Dybowski and Vanya Gant
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Clinical applications of artificial neural networks

Artificial neural networks provide a powerful tool to help doctors to analyse, model and make sense of complex clinical data across a broad range of medical applications. Their potential in clinical medicine is reflected in the diversity of topics covered in this cutting-edge volume. In addition to looking at new and forthcoming applications the book looks forward to exciting future prospects on the horizon. A section on theory looks at approaches to validate and refine the results generated by artificial neural networks. The volume also recognizes that concerns exist about the use of 'black-box' systems as decision aids in medicine, and the final chapter considers the ethical and legal conundrums arising out of their use for diagnostic or treatment decisions. Taken together, this eclectic collection of chapters provides an exciting overview of current and future prospects for harnessing the power of artificial neural networks in the investigation and treatment of disease.

Richard Dybowski is a Research Fellow in the Division of Medicine, King's College London. His main research interest is the application of statistics (including data visualization) and formal logics to medical informatics and bioinformatics.

Vanya Gant is Consultant and Senior Lecturer in Microbiology and Clinical Director in Infection at University College London Hospitals Trust. His particular interests are the application of emerging technologies to microbial diagnosis, and the interpretation and clinical decision-making that flow from complex high-dimensional datasets of either clinical or machine origin.

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