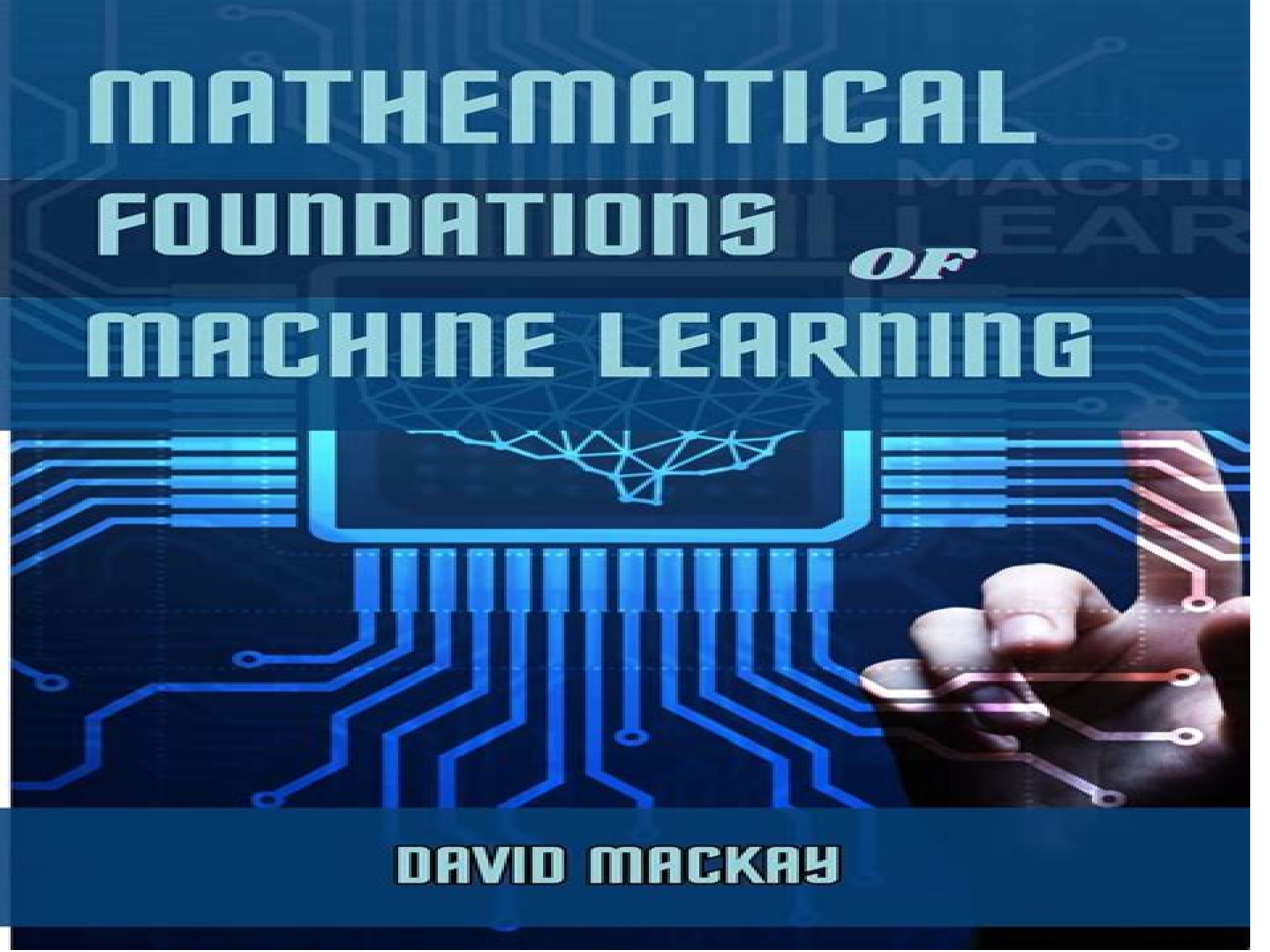


MATHEMATICAL FOUNDATIONS *OF* MACHINE LEARNING

The background is a dark blue field filled with glowing blue circuit-like lines. In the center, there is a faint, glowing diagram of a neural network with interconnected nodes. On the right side, a hand is visible, holding a glowing orange wire that also features circuit patterns. The overall aesthetic is high-tech and futuristic.

DAVID MACKAY

Mathematical Foundations Of Learning Machines

Issam El Naqa, Martin J. Murphy



Mathematical Foundations Of Learning Machines:

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Core Mathematical Concepts Explore the essential mathematical foundations essential for understanding machine learning including linear algebra calculus probability theory and optimization Gain a solid grasp of these fundamental concepts and their applications in designing analyzing and interpreting machine learning algorithms and models

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methods and a variety of applications in medical physics and radiotherapy An introductory section explains machine learning reviews supervised and unsupervised learning methods discusses performance evaluation and summarizes potential applications in radiation oncology Detailed individual sections are then devoted to the use of machine learning in quality assurance computer aided detection including treatment planning and contouring image guided radiotherapy respiratory motion management and treatment response modeling and outcome prediction The book will be invaluable for students and residents in medical physics and radiation oncology and will also appeal to more experienced practitioners and researchers and members of applied machine learning communities Fundamentals of Machine Learning Thomas P.

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