

MATLAB Machine Learning Recipes

A Problem-Solution Approach

Harness the power of MATLAB to resolve a wide range of the latest machine learning challenges. The enhanced Fourth Edition is updated with new chapters on advanced machine learning techniques and real-world engineering applications.

This book offers broad appeal for anyone interested in machine learning, with a new introductory chapter on MATLAB for greater accessibility and a dedicated toolbox chapter to streamline modern workflows. It also demonstrates how MATLAB and machine learning can address challenges across various technical fields. New chapters cover key machine learning areas like pattern recognition, system identification, and computer vision, along with application-focused content on advanced engineering topics such as FPGA deployment, space missions, power electronics, and dynamic modeling.

Each example in the book addresses a real-world problem, with fully executable code provided for every solution. You can quickly find and follow step-by-step guidance for specific challenges, enabling you to leverage these technologies to build sophisticated applications in areas such as pattern recognition, autonomous driving, expert systems, and more.

What You Will Learn

- Write code for machine learning, adaptive control, and estimation using MATLAB
- Use MATLAB graphics and visualization tools for machine learning
- Gain knowledge of Kalman Filters
- Build neural networks, including physics-informed models
- Perform system identification and build expert systems
- Work with computer vision and autonomous systems
- Integrate neural networks to FPGA hardware
- Apply machine learning to remaining useful life prediction

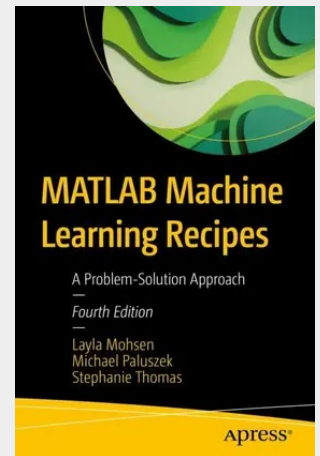
Who This Book Is For

Software engineers, control engineers, university faculty, undergraduate and graduate students, hobbyists.

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Who This Book Is For Software engineers,



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