

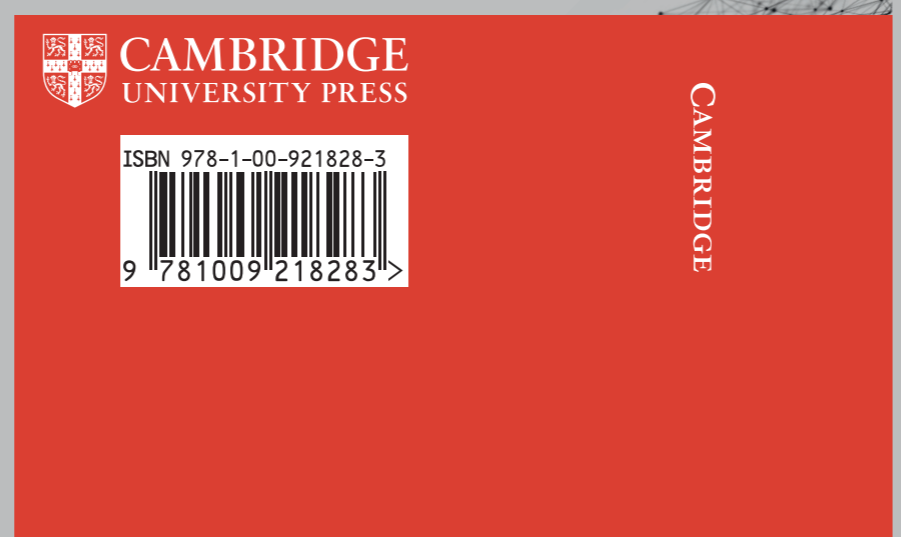


INFERENCE AND LEARNING FROM DATA

LEARNING VOLUME 3

ALI H. SAYED

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INFERENCE AND LEARNING FROM DATA
VOLUME 3



"A lucid and magisterial treatment of methods for inference and learning from data, aided by hundreds of solved examples, computer simulations, and over 1000 problems."
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"This volume will be a must-have for educators, students, researchers, and technologists alike who are pursuing a systematic study, want a quick refresh, or need a helpful reference to learn about these fundamentals."
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This extraordinary three-volume work, written in an engaging and rigorous style by a world authority in the field, provides an accessible, comprehensive introduction to the full spectrum of mathematical and statistical techniques underpinning contemporary methods in data-driven learning and inference.

This final volume, *Learning*, builds on the foundational topics established in volume 1 to provide a thorough introduction to learning methods, addressing techniques such as least-squares methods, regularization, online learning, kernel methods, generalization theory, feedforward, convolutional, recurrent, and generative neural networks, meta learning, explainable learning, and adversarial attacks.

A consistent structure and pedagogy are employed throughout this volume to reinforce student understanding, with over 350 end-of-chapter problems (including solutions for instructors), 280 figures, 100 solved examples, datasets, and downloadable MATLAB code. Supported by sister volumes *Foundations* and *Inference*, and unique in its scale and depth, this textbook sequence is ideal for early-career researchers and graduate students across many courses in signal processing, machine learning, statistical analysis, data science, and inference.

Online Resources
www.cambridge.org/sayed-vol3

For instructors:

- Solutions manual
- MATLAB code
- Figures in JPG and PPT format

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