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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 second volume, *Inference*, builds on the foundational topics established in volume I to introduce students to techniques for inferring unknown variables and quantities, including Bayesian inference, Markov chain Monte Carlo methods, maximum likelihood, variational inference, hidden Markov models, Bayesian networks, and reinforcement learning.

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), 180 solved examples, almost 200 figures, datasets, and downloadable MATLAB code. Supported by sister volumes *Foundations* and *Learning*, 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-vol2

For instructors:

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

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