

Preface

This book is intended for use by scientists, engineers, and students interested in sequence learning in artificial intelligence, neural networks, and cognitive science. The book will introduce essential algorithms and models of sequence learning and develop them in various ways. With the help of these concepts, a variety of applications will be examined. This book will allow the reader to acquire an appreciation of the breadth and variety within the field of sequence learning and its potential as an interesting area of research and application. The reader is presumed to have basic knowledge of neural networks and AI concepts.

Sequential behavior is essential to intelligence and a fundamental part of human activities ranging from reasoning to language, and from everyday skills to complex problem solving. Sequence learning is an important component of learning in many task domains — planning, reasoning, robotics, natural language processing, speech recognition, adaptive control, time series prediction, and so on. Naturally, there are many different approaches towards sequence learning. These approaches deal with different aspects of sequence learning. This book provides an overall framework for this field.

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