
Preface

This book will introduce you to the fundamentals of machine learning through TensorFlow. TensorFlow is Google's new software library for deep learning that makes it straightforward for engineers to design and deploy sophisticated deep learning architectures. You will learn how to use TensorFlow to build systems capable of detecting objects in images, understanding human text, and predicting the properties of potential medicines. Furthermore, you will gain an intuitive understanding of TensorFlow's potential as a system for performing tensor calculus and will learn how to use TensorFlow for tasks outside the traditional purview of machine learning.

Importantly, *TensorFlow for Deep Learning* is one of the first deep learning books written for practitioners. It teaches fundamental concepts through practical examples and builds understanding of machine learning foundations from the ground up. The target audience for this book is practicing developers, who are comfortable with designing software systems, but not necessarily with creating learning systems. At times we use some basic linear algebra and calculus, but we will review all necessary fundamentals. We also anticipate that our book will prove useful for scientists and other professionals who are comfortable with scripting, but not necessarily with designing learning algorithms.

Conventions Used in This Book

The following typographical conventions are used in this book:

Italic

Indicates new terms, URLs, email addresses, filenames, and file extensions.

Constant width

Used for program listings, as well as within paragraphs to refer to program elements such as variable or function names, databases, data types, environment variables, statements, and keywords.