
Hands-On Large Language Models

Language Understanding and Generation

Jay Alammar and Maarten Grootendorst

Beijing • Boston • Farnham • Sebastopol • Tokyo

O'REILLY®

Hands-On Large Language Models

by Jay Alammar and Maarten Grootendorst

Copyright © 2024 Jay Alammar and Maarten Pieter Grootendorst. All rights reserved.

Printed in the United States of America.

Published by O'Reilly Media, Inc., 1005 Gravenstein Highway North, Sebastopol, CA 95472.

O'Reilly books may be purchased for educational, business, or sales promotional use. Online editions are also available for most titles (<http://oreilly.com>). For more information, contact our corporate/institutional sales department: 800-998-9938 or corporate@oreilly.com.

Acquisitions Editor: Nicole Butterfield

Development Editor: Michele Cronin

Production Editor: Ashley Stussy

Copyeditor: Charles Roumeliotis

Proofreader: Kim Cofer

Indexer: BIM Creatives, LLC

Interior Designer: David Futato

Cover Designer: Karen Montgomery

Illustrator: Kate Dullea

September 2024: First Edition

Revision History for the First Edition

2024-09-10: First Release

See <http://oreilly.com/catalog/errata.csp?isbn=9781098150969> for release details.

The O'Reilly logo is a registered trademark of O'Reilly Media, Inc. *Hands-On Large Language Models*, the cover image, and related trade dress are trademarks of O'Reilly Media, Inc.

The views expressed in this work are those of the authors and do not represent the publisher's views. While the publisher and the authors have used good faith efforts to ensure that the information and instructions contained in this work are accurate, the publisher and the authors disclaim all responsibility for errors or omissions, including without limitation responsibility for damages resulting from the use of or reliance on this work. Use of the information and instructions contained in this work is at your own risk. If any code samples or other technology this work contains or describes is subject to open source licenses or the intellectual property rights of others, it is your responsibility to ensure that your use thereof complies with such licenses and/or rights.

978-1-098-15096-9

[LSI]