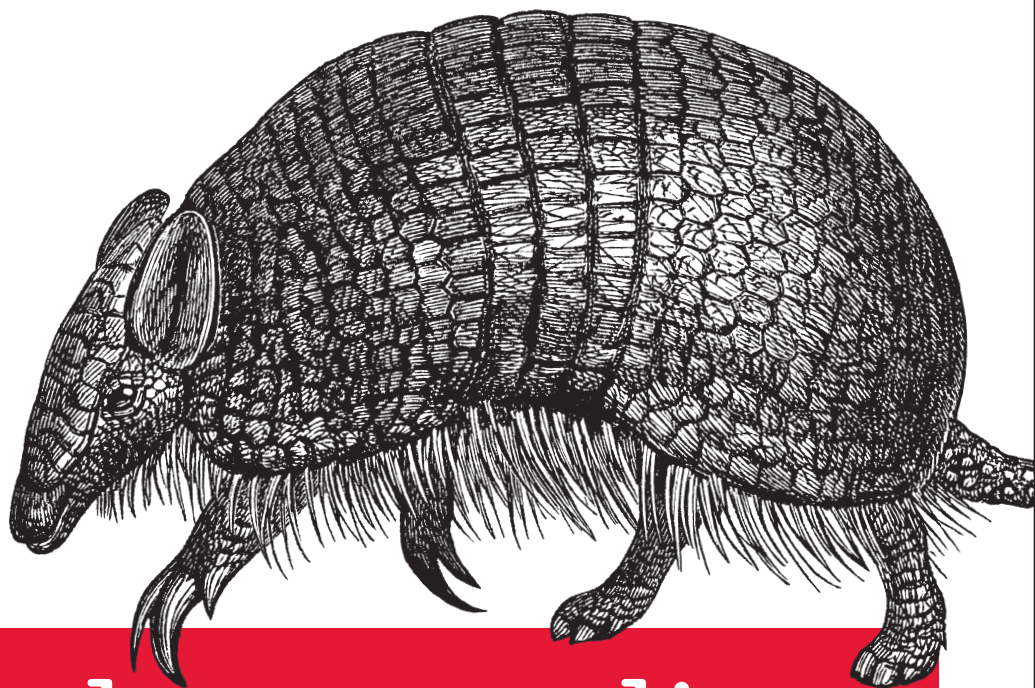


O'REILLY®



# Understanding Compression

---

DATA COMPRESSION FOR MODERN DEVELOPERS

Colt McAnlis & Aleks Haecky

# Understanding Compression

If you want to attract and retain users in the booming mobile services market, you need a quick-loading app that won't churn through their data plans. The key is to compress multimedia and other data into smaller files, but finding the right method is tricky. This witty book helps you understand how data compression algorithms work—in theory and practice—so you can choose the best solution among all the available compression tools.

With tables, diagrams, games, *and as little math as possible*, authors Colton McAnlis and Aleks Haecky neatly explain the fundamentals. Learn how compressed files are better, cheaper, and faster to distribute and consume, and how they'll give you a competitive edge.

- Learn why compression has become crucial as data production continues to skyrocket
- Know your data, circumstances, and algorithm options when choosing compression tools
- Explore variable-length codes, statistical compression, arithmetic numerical coding, dictionary encodings, and context modeling
- Examine tradeoffs between file size and quality when choosing image compressors
- Learn ways to compress client- and server-generated data objects
- Meet the inventors and visionaries who created data compression algorithms

“Compression is all about the most compact representation of data. First, we're going to talk about buckets. Then, we'll introduce you to this rebel named Claude Shannon, who pretty much ruined our life while simultaneously creating everything important that you love about computers. Finally, we'll reveal the one essential thing you need to know about data compression.”

—from Chapter One

**Colt McAnlis** is a Developer Advocate at Google focusing on games, compression, and performance. He's been an Adjunct Professor at SMU Guildhall, as well as a Udacity instructor.

**Aleks Haecky** is a Developer Advocate, Training Developer, and Writer at Google. He's worked on performance, documentation, and behind the scenes at Udacity and the Google Developer Channel.

DATA

US \$36.99

CAN \$42.99

ISBN: 978-1-491-96153-7



5 3 6 9 9



Twitter: @oreillymedia  
facebook.com/oreilly

---

# Understanding Compression

*Data Compression for Modern Developers*

*Colt McAnlis and Aleks Haecky*

Beijing • Boston • Farnham • Sebastopol • Tokyo

**O'REILLY®**

## Understanding Compression

by Colt McAnlis and Aleks Haecky

Copyright © 2016 Colton McAnlis and Aleks Haecky. 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://safaribooksonline.com>). For more information, contact our corporate/institutional sales department: 800-998-9938 or [corporate@oreilly.com](mailto:corporate@oreilly.com).

**Editor:** Tim McGovern

**Production Editor:** Melanie Yarbrough

**Copyeditor:** Octal Publishing, Inc.

**Proofreader:** Jasmine Kwityn

**Indexer:** Ellen Troutman-Zaig

**Interior Designer:** David Futato

**Cover Designer:** Karen Montgomery

**Illustrator:** Melanie Yarbrough

July 2016:

First Edition

### Revision History for the First Edition

2016-07-11: First Release

See <http://oreilly.com/catalog/errata.csp?isbn=9781491961537> for release details.

The O'Reilly logo is a registered trademark of O'Reilly Media, Inc. *Understanding Compression*, the cover image, and related trade dress are trademarks of O'Reilly Media, Inc.

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.

978-1-491-96153-7

[LSI]