Publishing Trends

On O'Reilly Learning Platform

Project Aim

Explore trending topics for tech books, analyzing books metadata over time (2018 - 2023).

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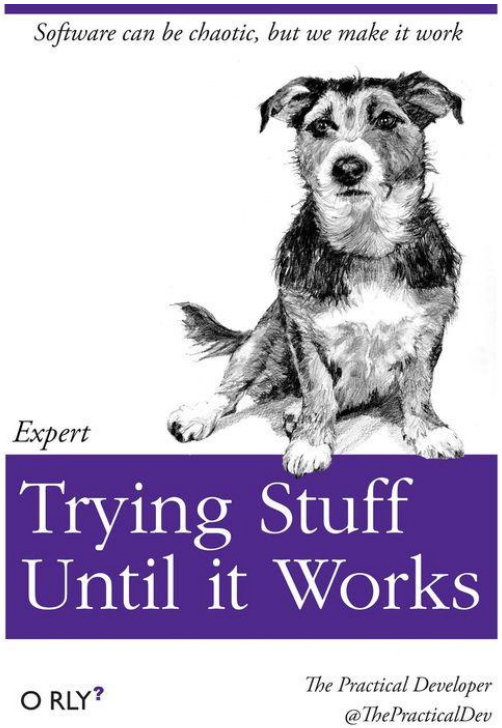
Anno 2023-24

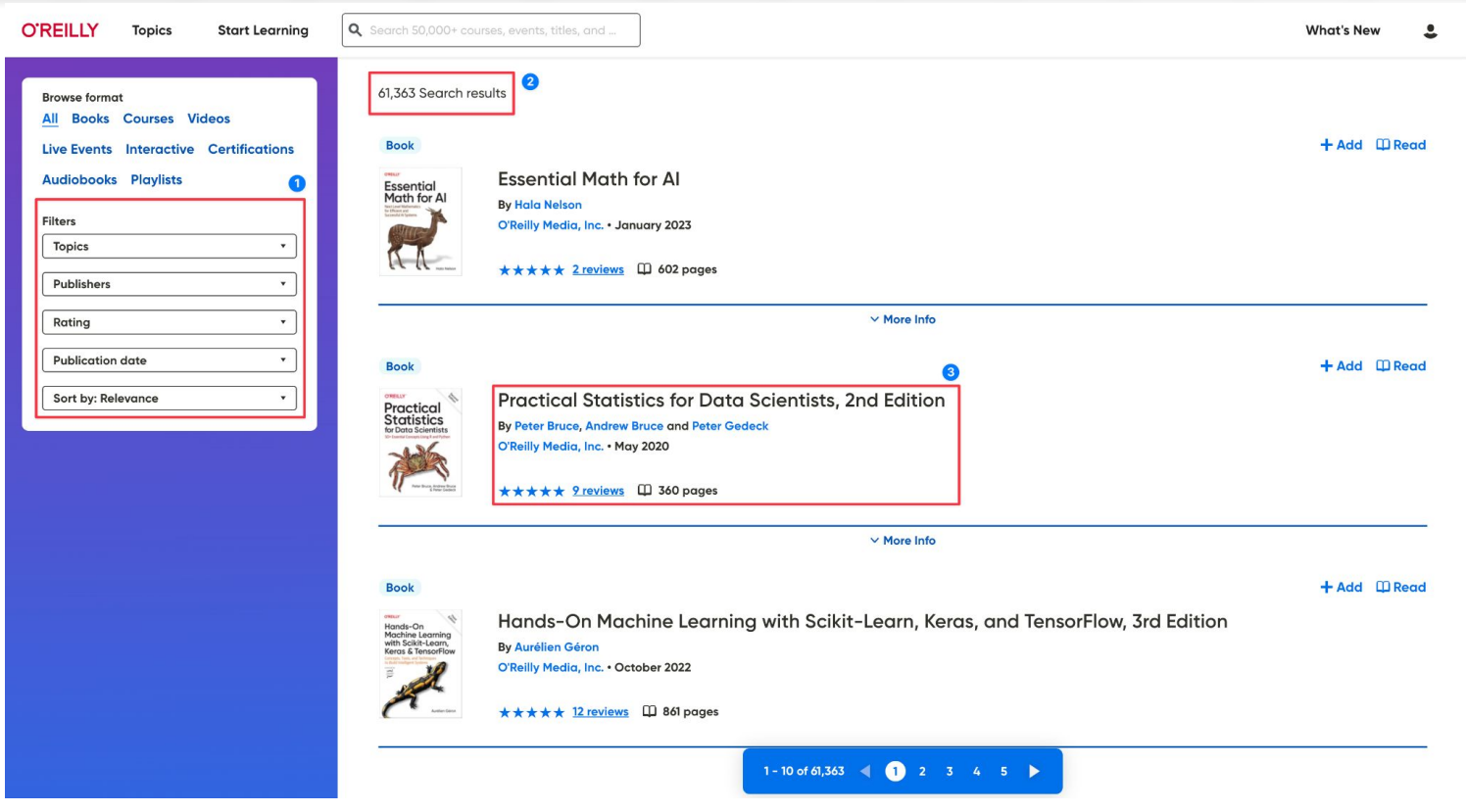


Gold Rush

<insert your favorite trending topic>

O'Reilly Website

Main page: oreilly.com/search



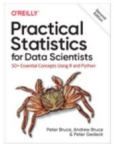
O'Reilly Website

Detail: /library/view/practical-statistics-for/{isbn}

More Info

Book

+ Add Read



Practical Statistics for Data Scientists, 2nd Edition

By Peter Bruce, Andrew Bruce and Peter Gedeck

O'Reilly Media, Inc. • May 2020

★★★★★ 9 reviews 360 pages

1

Statistical methods are a key part of data science, yet few data scientists have formal statistical training. Courses and books on basic statistics rarely cover the topic from a data science perspective. The second edition of this popular guide adds comprehensive examples in Python, provides practical guidance on applying statistical methods to data science, tells you how to avoid their misuse, and gives you advice on what's important and what's not.

Many data science resources incorporate statistical methods but lack a deeper statistical perspective. If you're familiar with the R or Python programming languages and have some exposure to statistics, this quick reference bridges the gap in an accessible, readable format.

With this book, you'll learn:

- Why exploratory data analysis is a key preliminary step in data science
- How random sampling can reduce bias and yield a higher-quality dataset, even with big data
- How the principles of experimental design yield definitive answers to questions
- How to use regression to estimate outcomes and detect anomalies
- Key classification techniques for predicting which categories a record belongs to
- Statistical machine learning methods that "learn" from data
- Unsupervised learning methods for extracting meaning from unlabeled data

Learn More

Related topics

Statistics Data Science Tasks Data Science Data

2

O'Reilly Website

Publishers

Dataset

JSON Metadata and Cover image


```
{
 "product_id": "9781098156879",
 "title": "Dive Into Data Science",
 "authors": ["Bradford Tuckfield"],
 "description": "...",
 "language": "en",
 "categories": [["Data", "Data Science"]],
 "url": "https://learning.oreilly.com/library/view/-/9781098156879/",
 "cover_image": "https://learning.oreilly.com/library/cover/9781098156879/",
 "publication_date": "2023-07-04",
 "publishers": ["No Starch Press"],
 "page_count": 288,
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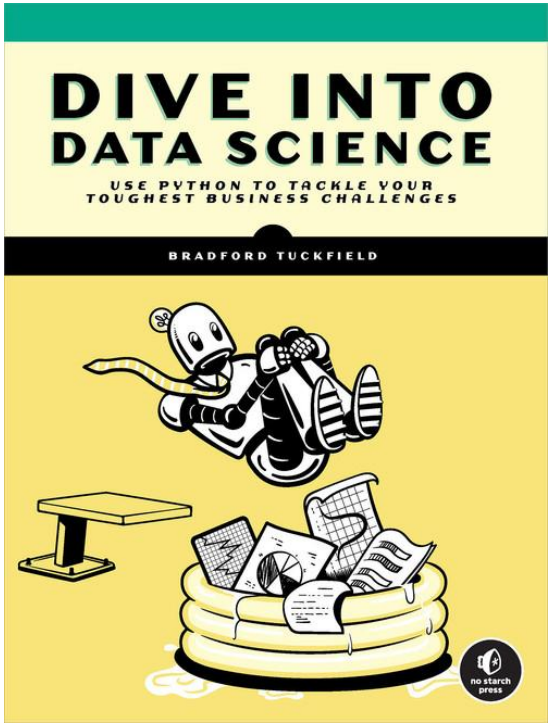
5139 Books and related covers ≈ 500 MBs



BI Architecture

Tools adopted

Steps

- Web scraping: Python (Asyncio) for books metadata and covers, taking advantage of internal REST API (< 5mins)
- ETL: Pandas and a pinch of Seaborn in a Jupyter Notebook
- DB: SQLite with a few tables (Book, Author and Category)
- Reporting and Graphs: Tableau

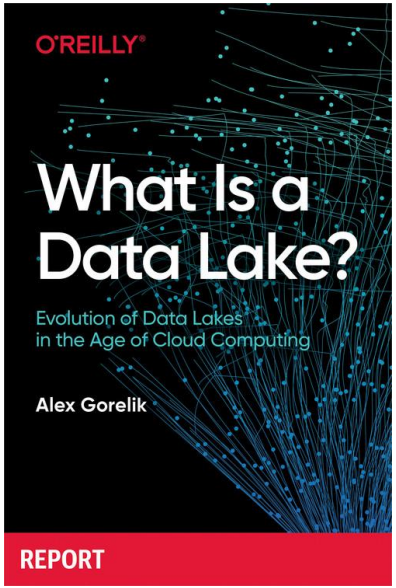
A cleaning tale

Removing O'Reilly Reports from Dataset

Some entries don't belong to the dataset, because they're report publications (O'Reilly), they usually have a low *page_count*.

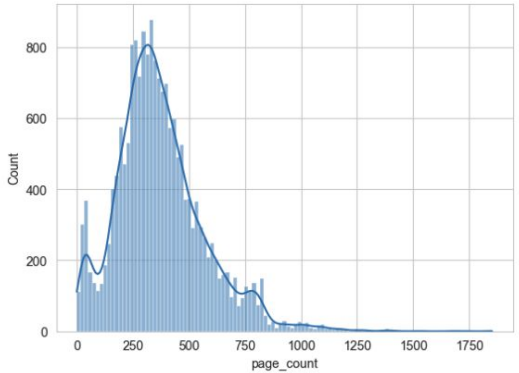
We filter them out with 3 different strategies:

1. Category (*Radar*)
2. Outliers (*page_count*)
3. OCR scan (*image text content*)

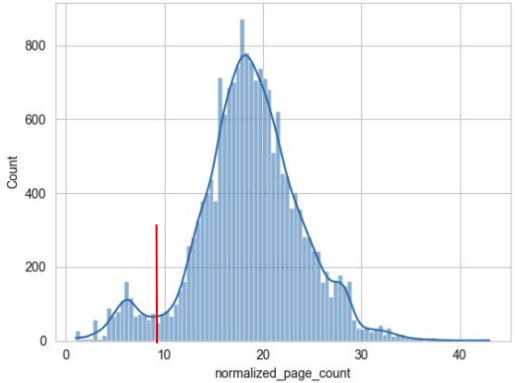


A cleaning tale

Identifying Outliers: IQR Method



√page_count =>



`skew ≈ 1.0`

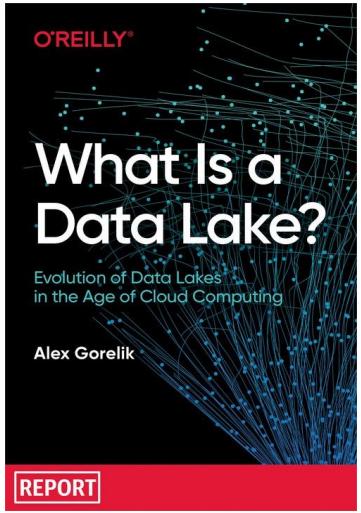
`skew ≈ -0.20`

IQR = Q3 - Q1
Red bar (lower fence) = Q1 - 1.5 (IQR)

We drop all the entries below the red bar
https://online.stat.psu.edu/stat200/lesson/3/3.2

A cleaning tale

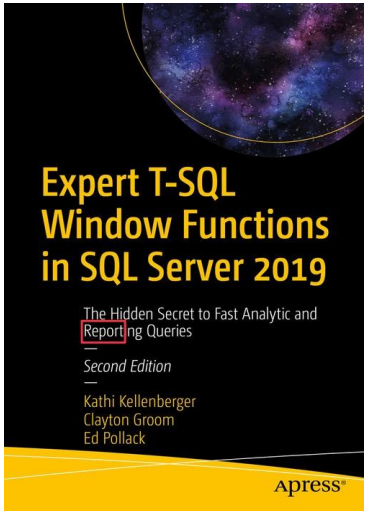
OCR: looking for Report / Infographic in the Cover text



Watch out ! Report / Infographic might be part of the text :-(

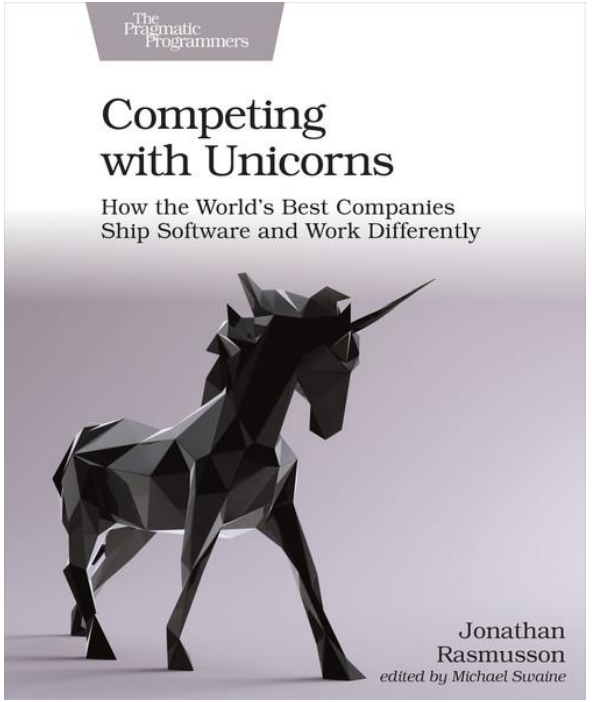
We can still check:

1. title attribute
2. publisher
3. report/infographic is the last word in the cover



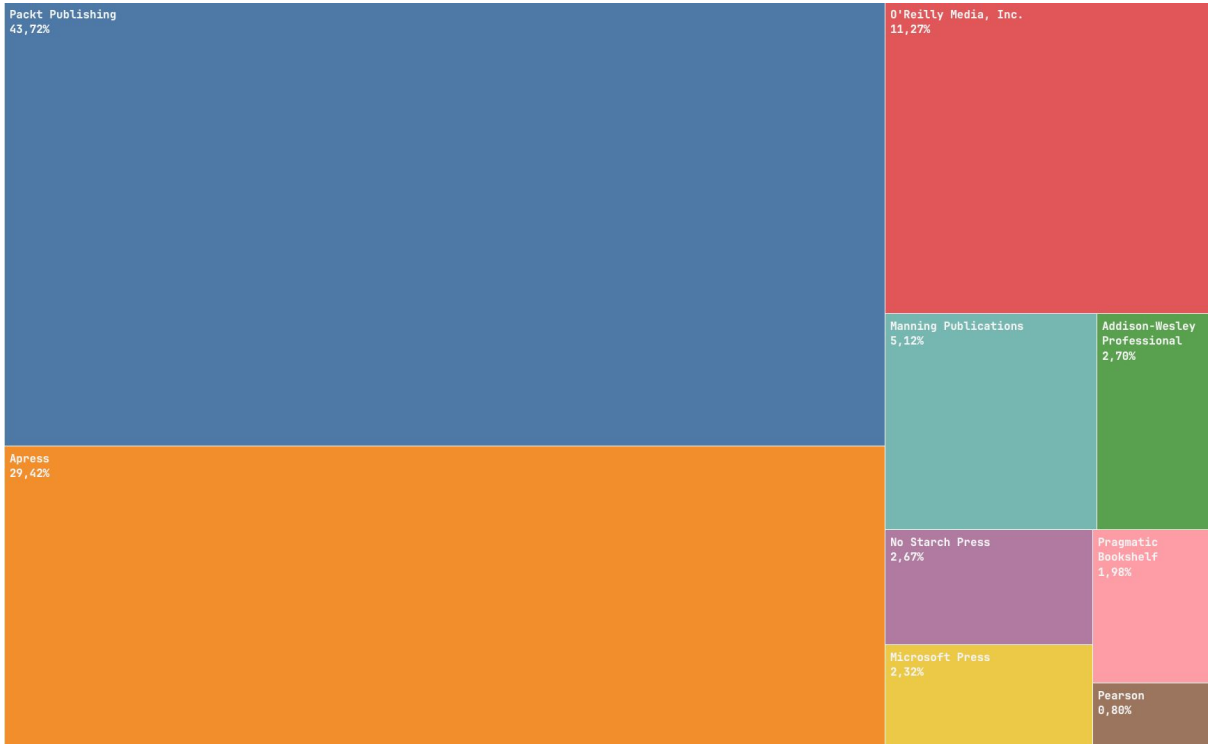
A cleaning tale
Lessons learned

- You may not know in advance which data might prove to be useful (e.g. cover images), so retrieve as much data as possible.
- Start with the simplest transformation that might work (e.g. Radar category) and move up to more complicated stuff (comput. expensive).
- Math is a great ally (missing data, outliers, etc.), use it !-)



Publishers

Number of books per Publisher (2018-2023)



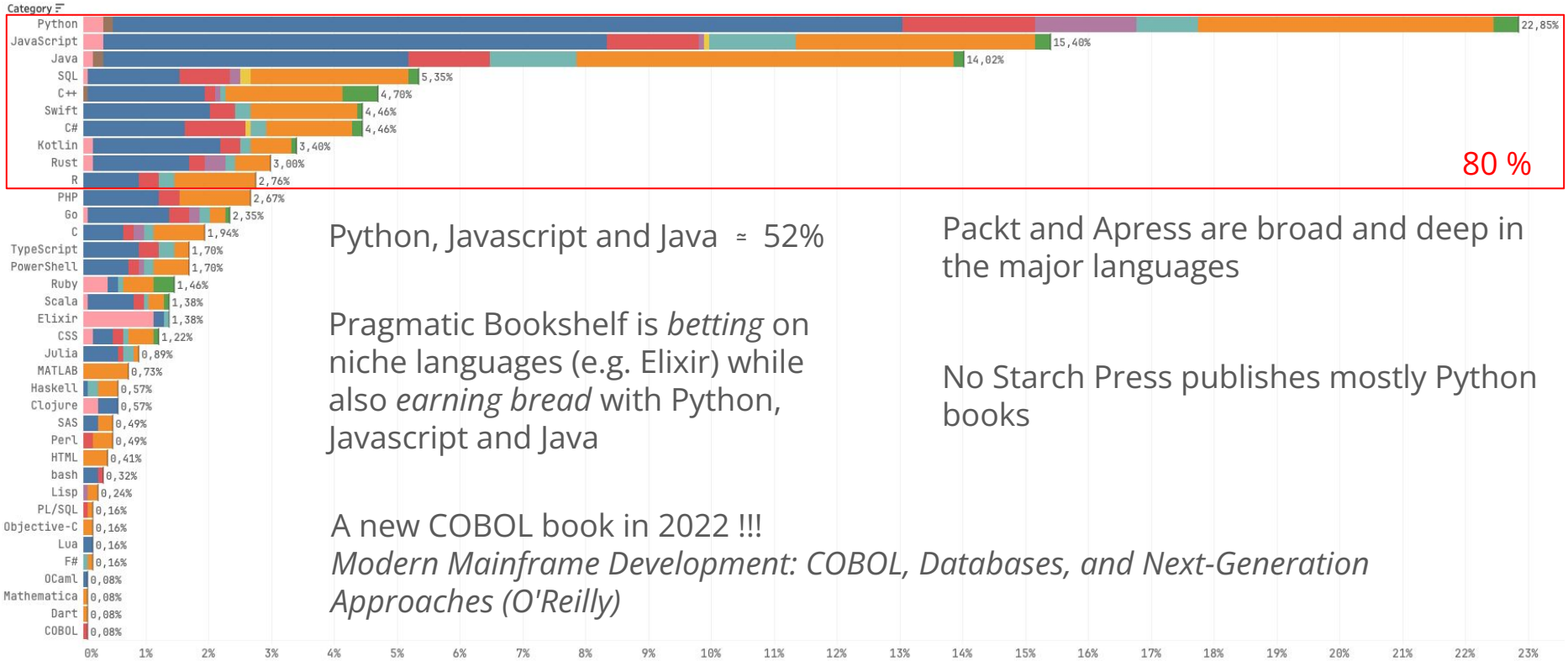
Tier 1: Packt Publishing, Apress

Tier 2: O'Reilly, Manning

Tier 3: Addison-Wesley, No Starch Press, Microsoft Press, Pragmatic Bookshelf, Pearson

Publishers

Programming, scripting and markup languages



Python, Javascript and Java ≃ 52%

Pragmatic Bookshelf is *betting* on niche languages (e.g. Elixir) while also *earning bread* with Python, Javascript and Java

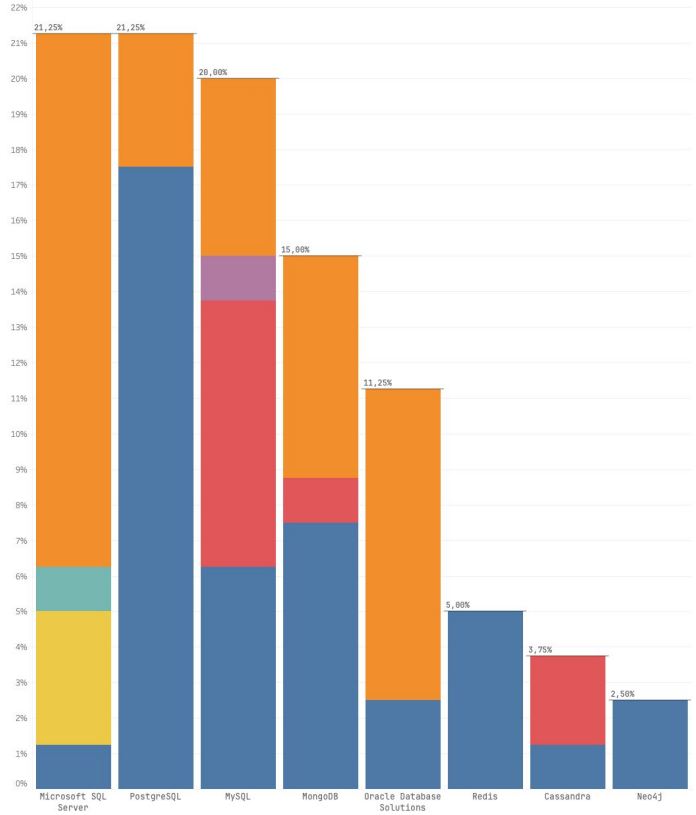
Packt and Apress are broad and deep in the major languages

No Starch Press publishes mostly Python books

A new COBOL book in 2022 !!!
Modern Mainframe Development: COBOL, Databases, and Next-Generation Approaches (O'Reilly)

Publishers

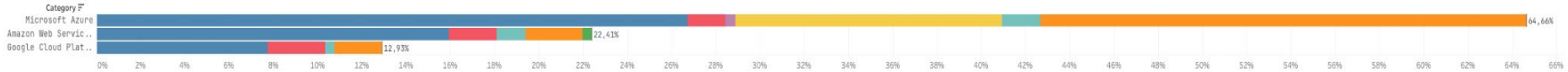
Databases



RDBMS > 70 %, NoSQL for specialized workloads, GraphDB niche technology.

Packt Publishing covers all database solutions, while Apress only the major ones in terms of market share.

Publishers
Cloud Providers



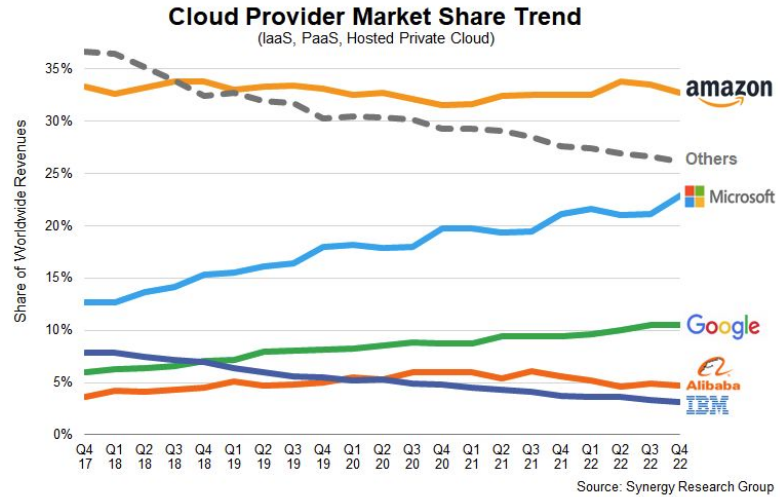


Image Credits: *Synergy Research*

For our publishers (dataset), Microsoft Azure is already dominant.

https://techcrunch.com/2023/02/06/even-as-cloud-infrastructure-market-growth-slows-microsoft-continues-to-gain-on-amazon/

Publishers

Themes

Category	Year of Publication Date 2018	2019	2020	2021	2022	2023
ML & AI	15,97%	17,51%	18,30%	16,64%	12,29%	11,96%
Web Development	14,43%	12,62%	12,26%	9,87%	8,64%	11,96%
Data Engineering	10,78%	9,79%	10,19%	9,69%	10,30%	10,51%
Cloud Computing	8,68%	8,47%	9,62%	9,14%	12,29%	10,87%
Business	9,38%	9,60%	9,25%	8,23%	10,63%	9,42%
Security	5,88%	7,91%	8,30%	8,78%	9,80%	10,87%
Software Architecture	4,06%	5,65%	4,72%	6,95%	7,48%	6,88%
Design	3,64%	3,95%	4,53%	4,02%	6,31%	7,97%
Internet of Things (IoT)	5,74%	3,58%	4,91%	5,30%	3,32%	3,62%
DevOps	4,90%	3,20%	3,21%	4,75%	5,32%	3,26%
Game Development	3,78%	3,58%	3,58%	3,11%	2,99%	2,54%
Blockchain / Decentralized Apps	3,36%	4,14%	2,64%	1,10%	1,50%	1,81%
Mobile Development	3,08%	3,20%	2,08%	2,93%	1,83%	0,72%
Data Visualization	2,38%	2,07%	1,51%	2,38%	1,33%	1,45%
Agile	1,68%	1,32%	1,89%	2,01%	1,33%	0,72%
QA / Testing	1,26%	1,13%	0,94%	2,38%	1,66%	2,17%
Math, Science, Engineering	0,84%	1,51%	0,75%	1,28%	1,00%	2,17%
User Experience (UX)	0,98%	1,32%	1,13%	0,73%	0,33%	0,72%
Cryptocurrency	1,40%	1,69%		0,18%	0,66%	1,09%
Robotics	1,40%	0,38%	1,13%	0,91%	0,33%	
Quantum Computing	0,14%	0,38%	0,75%	0,91%	1,00%	0,36%
Soft Skills	0,42%	0,75%	0,19%	0,91%	1,00%	
IT Certifications		0,38%	0,57%	0,55%	1,00%	0,72%
Encryption / Cryptography		0,38%	0,19%	0,55%	0,33%	
Edge Computing		0,19%	0,19%		0,66%	

Data related to 2023 not complete

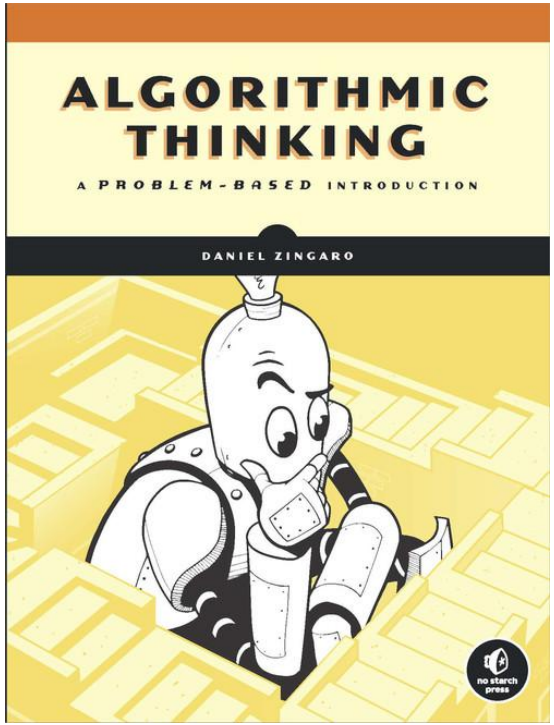
[“A new threat to financial stability lurks in the cloud” (Financial Times)]

…more than 90 per cent of the members of the American Bankers Association are shifting activity on to the cloud, although more than 80 per cent say this is at an early stage…

Cloud computing echoes this so-called Spof (single point of failure) issue, as Michael Hsu, acting Comptroller of the Currency, told the BIS earlier this year. Most notably — and as Brussels often complains — the cloud is dominated by an oligopoly of Amazon, Microsoft and Google. If one of those players suffered a big cyber attack, weather-linked disruption or simply went bankrupt, that would rock the system…

Conclusions

Publishers, books and related themes



The industry doesn't evolve much year over year as many people think. Being competent at fundamentals is extremely important.

We may still be in the early stages of Cloud adoption, Security will become a central theme in the future.