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This course:

Not a machine learning or data science course!

- This is a course about distributed data parallelism in Spark.
- Extending familiar functional abstractions like functional lists over large clusters.
- Context: analyzing large data sets.

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Oh yeah, there's also the massive shift in industry to data-oriented decision making too!

...and many applications are "data science in the large".

Why Scala? Why Spark?

By using a language like Scala, it's easier to scale your small problem to the large with Spark, whose API is almost 1-to-1 with Scala's collections.

That is, by working in Scala, in a functional style, you can quickly scale your problem from one node to tens, hundreds, or even thousands by leveraging Spark, successful and performant large-scale data processing framework which looks a and feels a lot like Scala Collections!

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- **Good for data science**. Not just because of performance, but because it enables *iteration*, which is required by most algorithms in a data scientist's toolbox.

Also good to know...

Spark and Scala skills are in extremely high demand!

In this course you'll learn...

- **Extending data parallel paradigm to the distributed case, using Spark.**
- **Spark's programming model**
- **Distributing computation, and cluster topology in Spark**
- **How to improve performance; data locality, how to avoid recomputation and shuffles in Spark.**
- **Relational operations with DataFrames and Datasets**

Prerequisites

Builds on the material taught in the previous Scala courses.

- **Principles of Functional Programming in Scala.**
- **Functional Program Design in Scala**
- **Parallel Programming (in Scala)**

Or at minimum, some familiarity with Scala.

Books, Resources

Many excellent books released in the past year or two!

Learning Spark (2015), written by Holden Karau, Andy Konwinski, Patrick Wendell, and Matei Zaharia

Books, Resources

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Spark in Action (2017), written by Petar Zecevic and Marko Bonaci

Books, Resources

Many excellent books released in the past year or two!

High Performance Spark (in progress), written by Holden Karau and Rachel Warren

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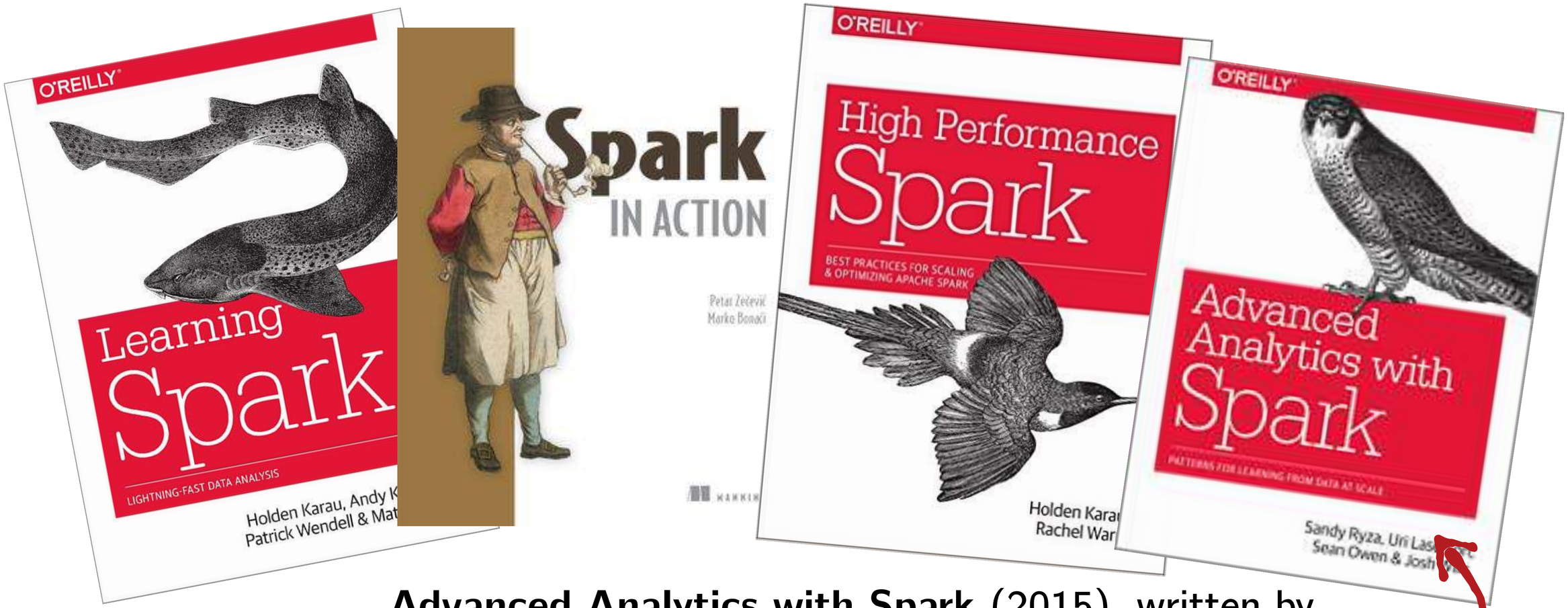

Advanced Analytics with Spark (2015), written by Sandy Ryza, Uri Laserson, Sean Owen, and Josh Wills

Books, Resources

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jaceklaskowski > Mastering Apache Spark 2

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Mastering Apache Spark 2, by Jacek Laskowski

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Mastering Apache Spark 2

Welcome to Mastering Apache Spark 2 (aka #SparkLikePro)!

I'm Jacek Laskowski, an **independent consultant** who is passionate about **Apache Spark**, Apache Kafka, Scala, sbt (with some flavour of Apache Mesos, Hadoop YARN, and DC/OS). I lead Warsaw Scala Enthusiasts and Warsaw Spark meetups in Warsaw, Poland.

Tools

As in all other Scala courses...

- IDE of your choice
- sbt
- Databricks Community Edition *(optional)*

  Free hosted in-browser Spark notebook. Spark "cluster" managed by Databricks so you don't have to worry about it. 6GB of memory for you to experiment with.

Assignments

Like all other Scala courses, this course comes with autograders!

Course features 3 auto-graded assignments that require you to do analyses on real-life datasets.

Let’s jump in!