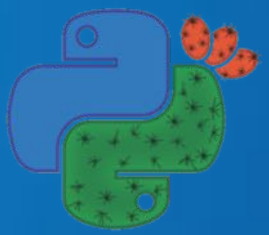


DataFrame Validation In Python

A Practical Introduction

Yotam Perkal• 04.06.18

https://www.youtube.com/watch?v=UXd0EDy7aTY

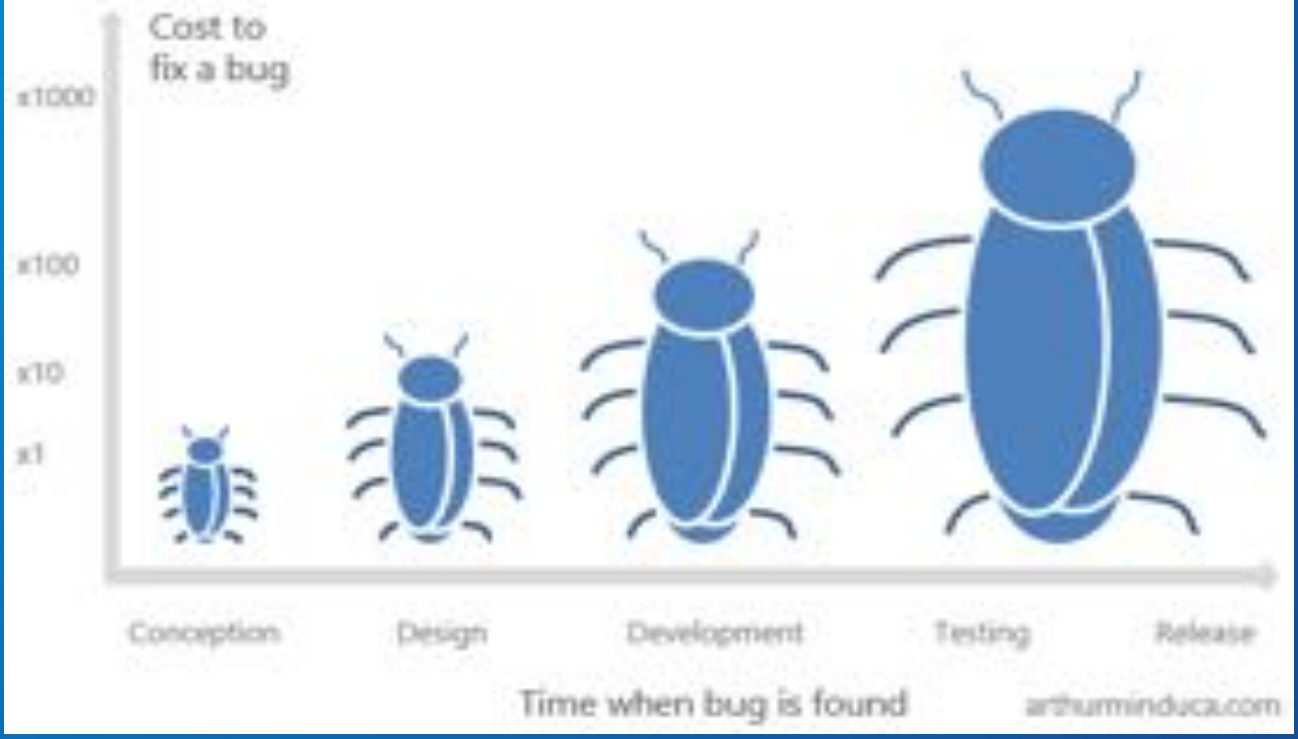
Sounds Familiar?

Credit:
Anaconda, Inc.
AnacondaCON 2018

About Me

Motivation

Why do we need data validation?



Data Quality Dimensions

Valid	Accurate	Complete
Consistent	Uniform	Unique

It can happen to all of us

John Lewis / Age at death

-324

1940–1616

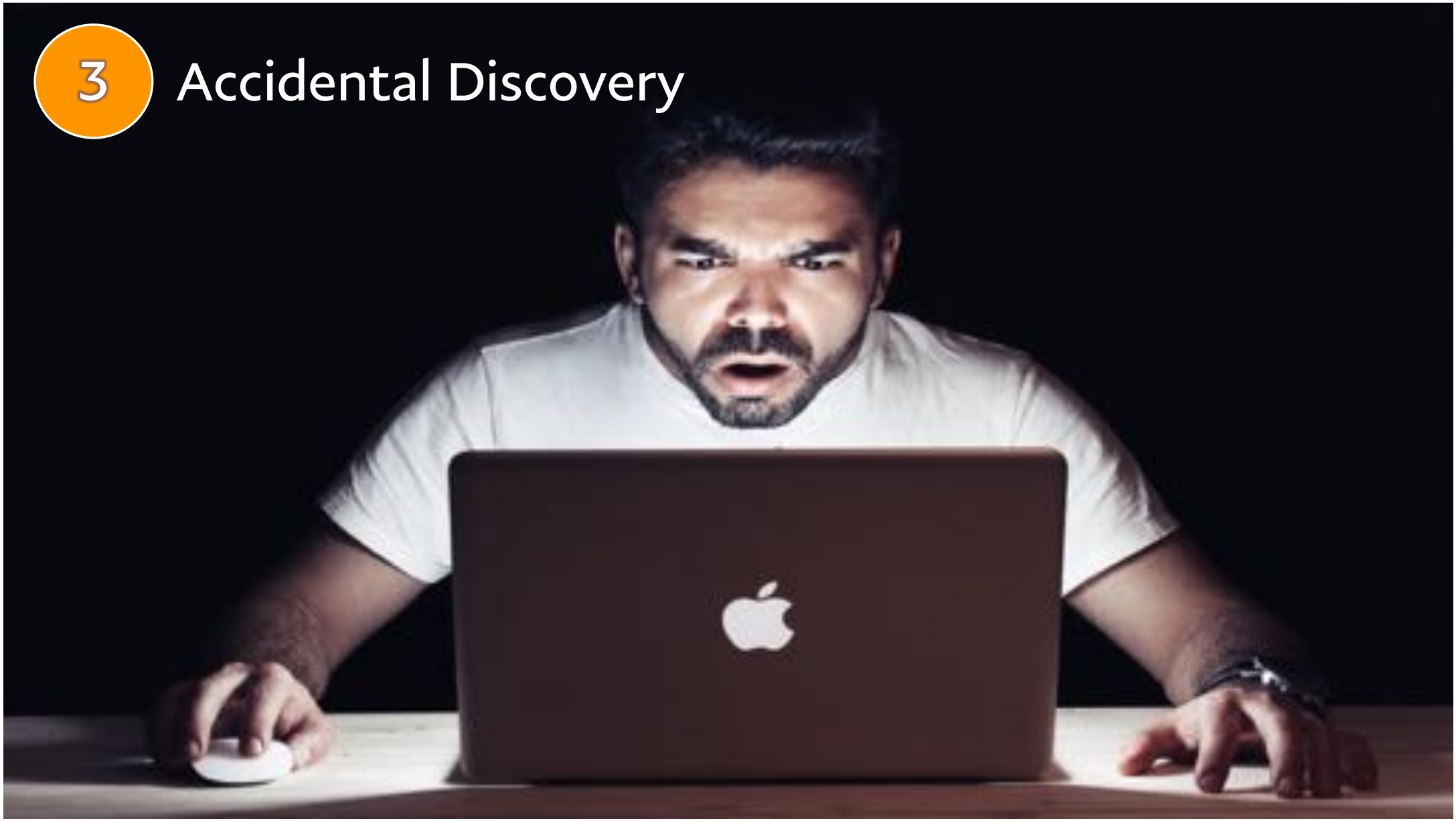
Books and overview

1 Perfect World

1 Perfect World


2
Model Deterioration

3 Accidental Discovery



4 Ignorance Is Bliss

Let’s See Some Tools?

Voluptuous

Voluptuous is a Python data validation library.

Benefits:

- Simplicity.
- Support for complex data structures.
- Useful error messages.

Similar to Json Schema but works on the data itself.

https://github.com/alecthomas/voluptuous

Engarde

Explicitly **state your assumptions** about the data and **check that they're *actually* true**.

Benefits:

- Great for flat files like csv
- Supports two methods of execution:
  - As decorators, which are most useful in .py scripts
  - Interactively at the interpreter

https://github.com/TomAugspurger/engarde

TDDA

Test Driven Data Analysis

Applying Test Driven Development (TDD) principals to data analysis.

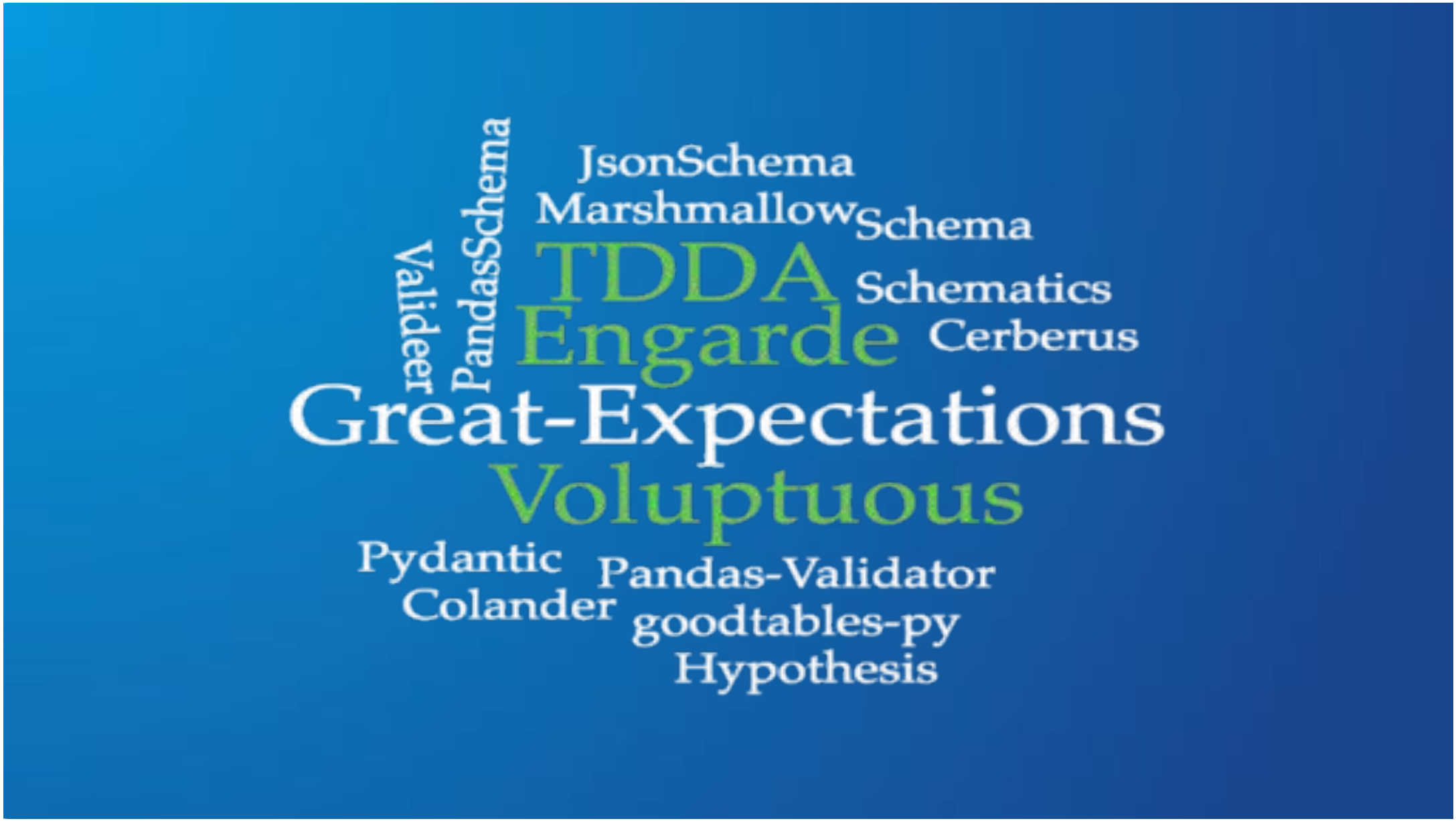
Benefits:

- Correctness
- Regression detection
- Specification, Design and Documentation
- Refactoring
- Portability

https://github.com/tdda/tdda

TDDA
Engarde

Voluptuous


JsonSchema
Marshmallow
Schema
PandasSchema
Valider
TDDA
Schematics
Engarde
Cerberus
Great-Expectations
Voluptuous
Pydantic
Pandas-Validator
Colander
goodtables-py
Hypothesis

Credit - Practical Data Cleaning with Python

KATHARINE JARMUL

http://kjamistan.com/

"*Quality* is never an accident;
it is always the result of *intelligent effort*."

— John Ruskin

https://github.com/pyotam/Dataframe-Validation