Data Manipulation with PYTHON

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Who am I?

- PhD [2010]
  - Distributed systems
  - Network measurements and performances
  - Distributed storage
- @Inria
  - Optimization
  - Image processing
  - Spark
- @MSI - MDLab
  - Dev-ops / Databases
  - Implementation - optimization
  - Virtualization
  - CNN + image analysis

Who are you?

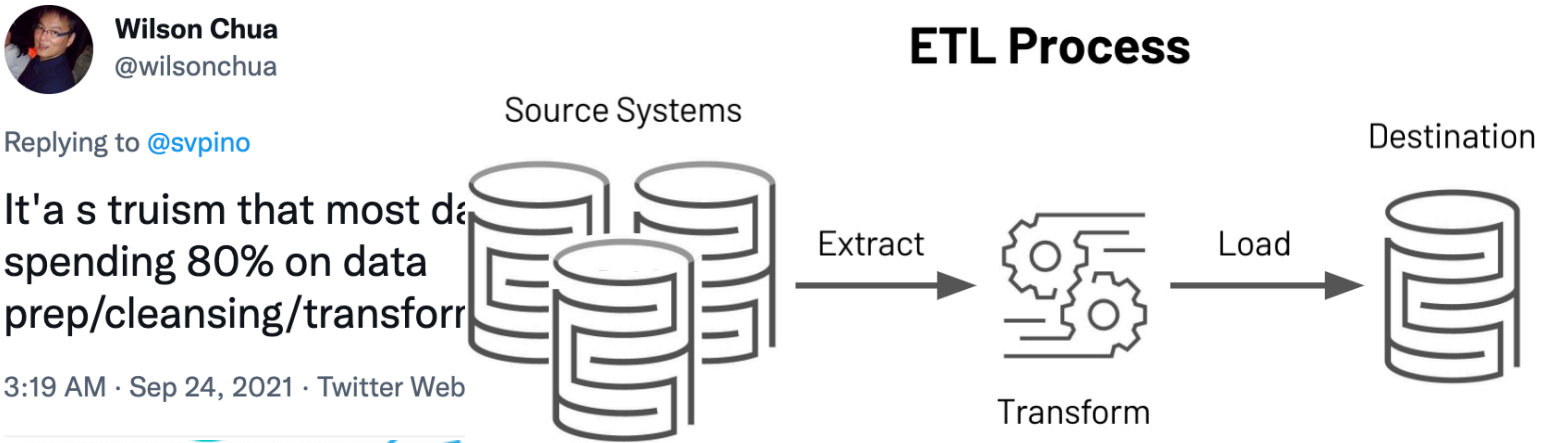
- Curious, open minded
- You know how to use a PC 😎
- Wanting to learn some cool stuff
- Not feared of tackling problems
- Not feared by errors
- (optional) Some coding experience
- (bonus) Some Python experience
- (bonus) “LMGTFY” skills 😎

- Ideal profile:
  - 50% data scientist: exploit the data
  - 50% software developer: you need to code

Motivation

A Survey on Data Cleaning Methods for Improved Machine Learning Model Performance

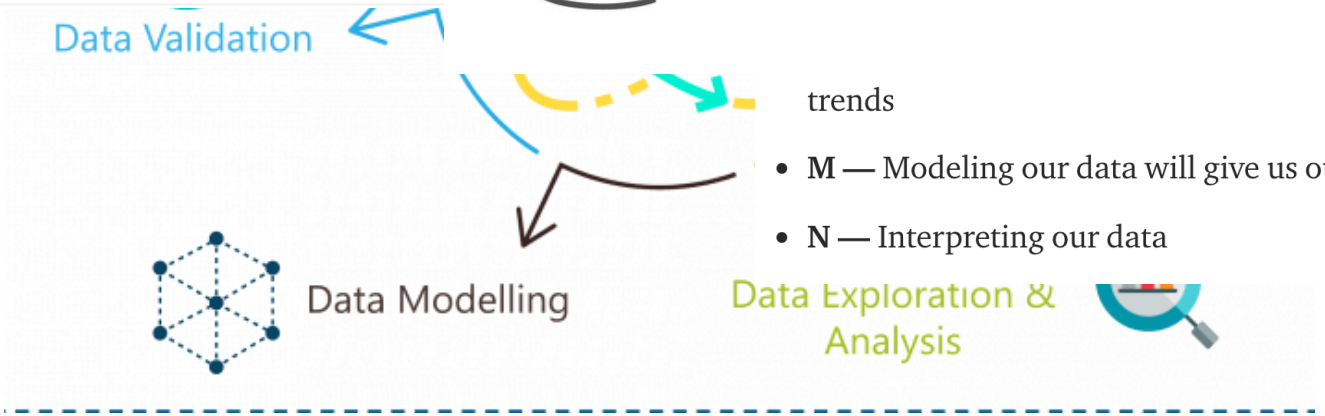
Ga Y hy



ind patterns and

trends

- **M** — Modeling our data will give us our predictive power as a wizard
- **N** — Interpreting our data



Course Overview

- Introduction

- Recap on Python3 (3.7 to 3.9.7)
- Data Manipulation
  - cleaning
  - preprocessing
- Basic data analysis
  - builtins
- Advanced data analysis
  - numpy
  - pandas
  - scikit-learn

Course Overview

- Syntax
- Data structures, types
- Software development
  - Testing
- Data preprocessing
  - management
  - cleaning
- Principles of functional programming
- A glimpse on ML

Course Overview

- REPL + scripts + notebooks
- 10 lessons
  - ~ 30% lectures
  - ~ 70% lab sessions
- Evaluation (to be defined)

Contacts

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