## **PRODYOGIKI '19**

# **Data Science Workshop**

**Data science** is an interdisciplinary field that uses scientific methods, processes, algorithms and systems to extract knowledge and insights from data in various forms, both structured and unstructured similar to data mining.

Data science is a "concept to unify statistics, data analysis, machine learning and their related methods" in order to "understand and analyze actual phenomena" with data. It employs techniques and theories drawn from many fields within the context of mathematics, statistics, information science, and computer science.

#### **Workshop Overview:**

#### • Day 1 – Python in Data Science

- Basic python syntax, data structures
- Pandas library for handling datasets
- Numby library for scientific calculations
- Bokeh, matplotlib library for data visualization

#### Day 1, Data Science part 1 (preprocessing)

- Data exploration and extrapolation
- Handling different data types
- Handling missing values
- Feature generation and extraction

## Day 2, Data science part 2 (data models)

- Scikit learn library
- Linear, logistic regression
- Decision trees

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- Xgboost
- Basic neural nets

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