Hands-on Machine Learning with Real-life Application

Learn different techniques on how to put AI In your real-life work.

Presented By,
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Quantum.ai

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Workshop Contents

- About me
- Why we are interested in Machine Learning
- Introduction of Machine Learning
- How to get started Machine Learning
- Types of Machine Learning
- Datasets Collection
- Datasets Preparation & Preprocessing
- Machine Learning Algorithms
- Environment Setup for Day-02
- Conclusion

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About Me

Harun-Ur-Rashid
CEO, Quantum.ai

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Why we are interested in Machine Learning?

- Future Prediction
- Get insight out of the super messy data
- And lots more

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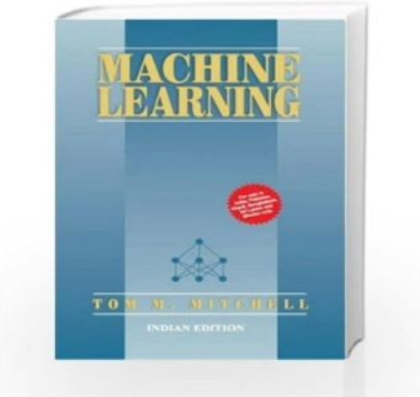
Introduction of Machine Learning

Hard Introduction



Tom Mitchell

"A computer program is said to learn from experience E with respect to some class of tasks T and performance measure P, if its performance at tasks in T, as measured by P, improves with experience E."

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Introduction of Machine Learning

Easy Introduction

Andrew Ng

“ It is a technique for programs which you can not code ”

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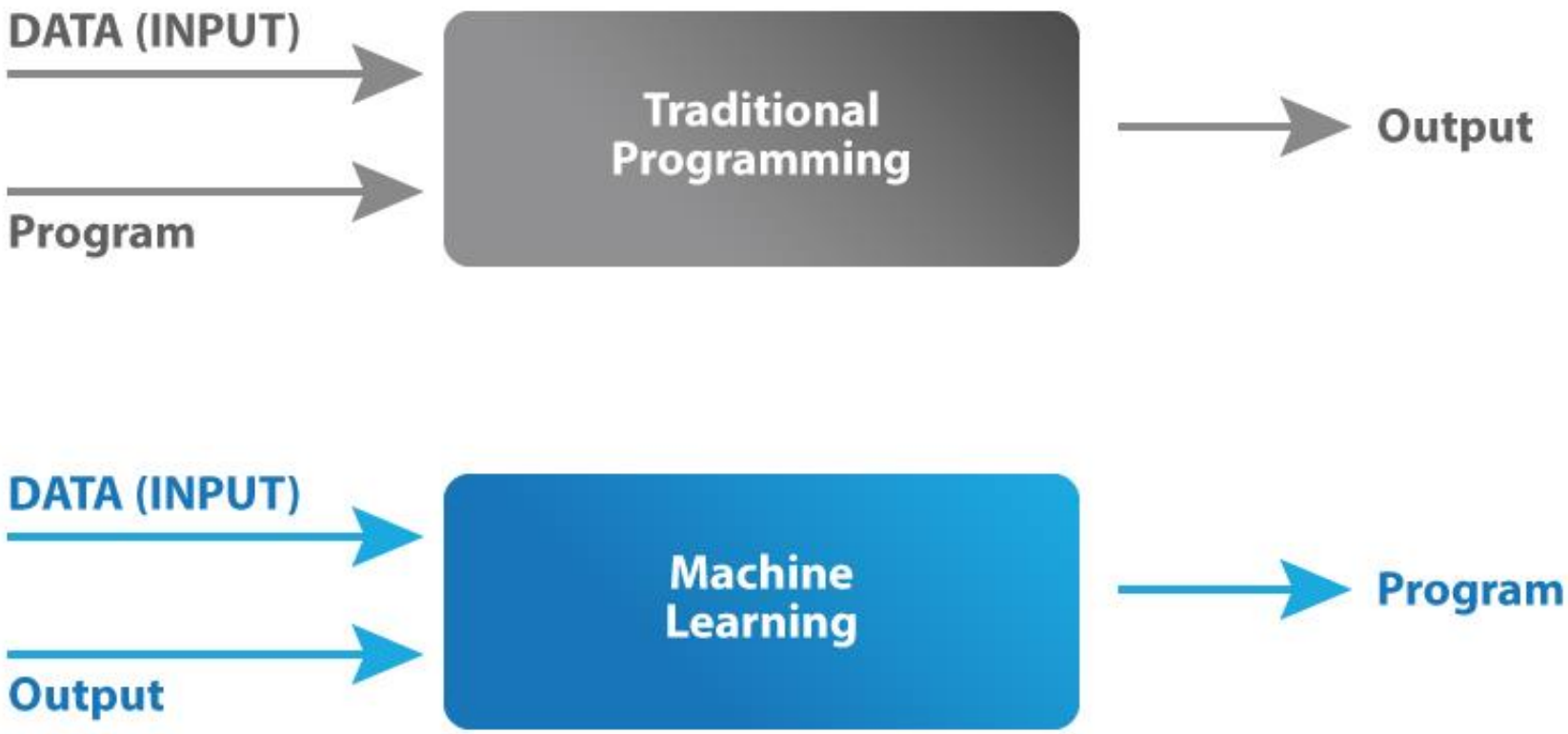
Introduction of Machine Learning



How to get started Machine Learning

Mathematics

- Linear Algebra
- Calculus
- Statistics
- Probability

Python & Machine Learning Packages

- Basic Python
- Pandas
- NumPy
- Matplotlib
- Scikit-learn

Machine Learning Algorithms

- Supervised algorithms
- Unsupervised algorithms

Dataset and Practical

- UCI Machine Learning Repository
- Kaggle
- Google Dataset

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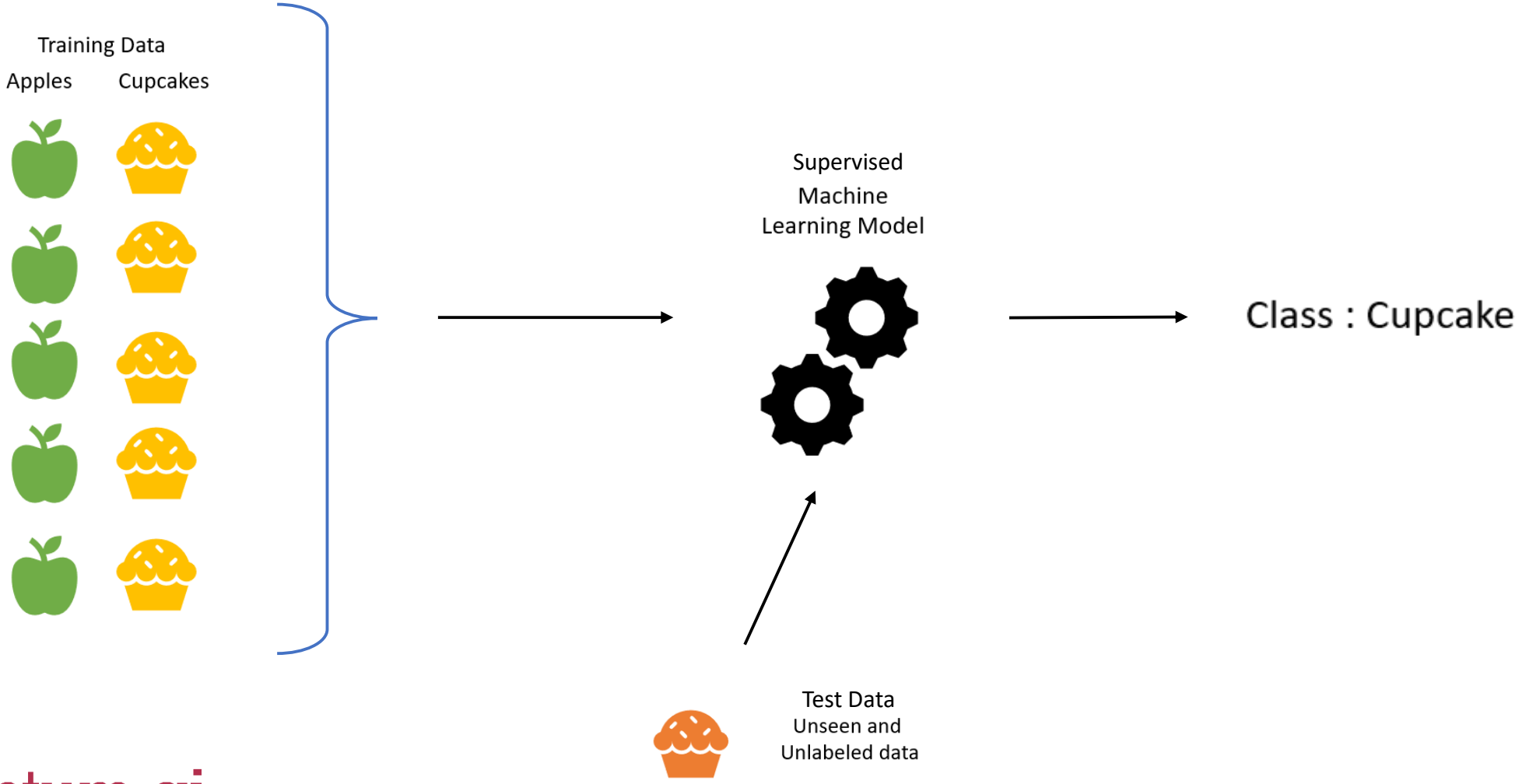
Types of Machine Learning

Supervised Learning



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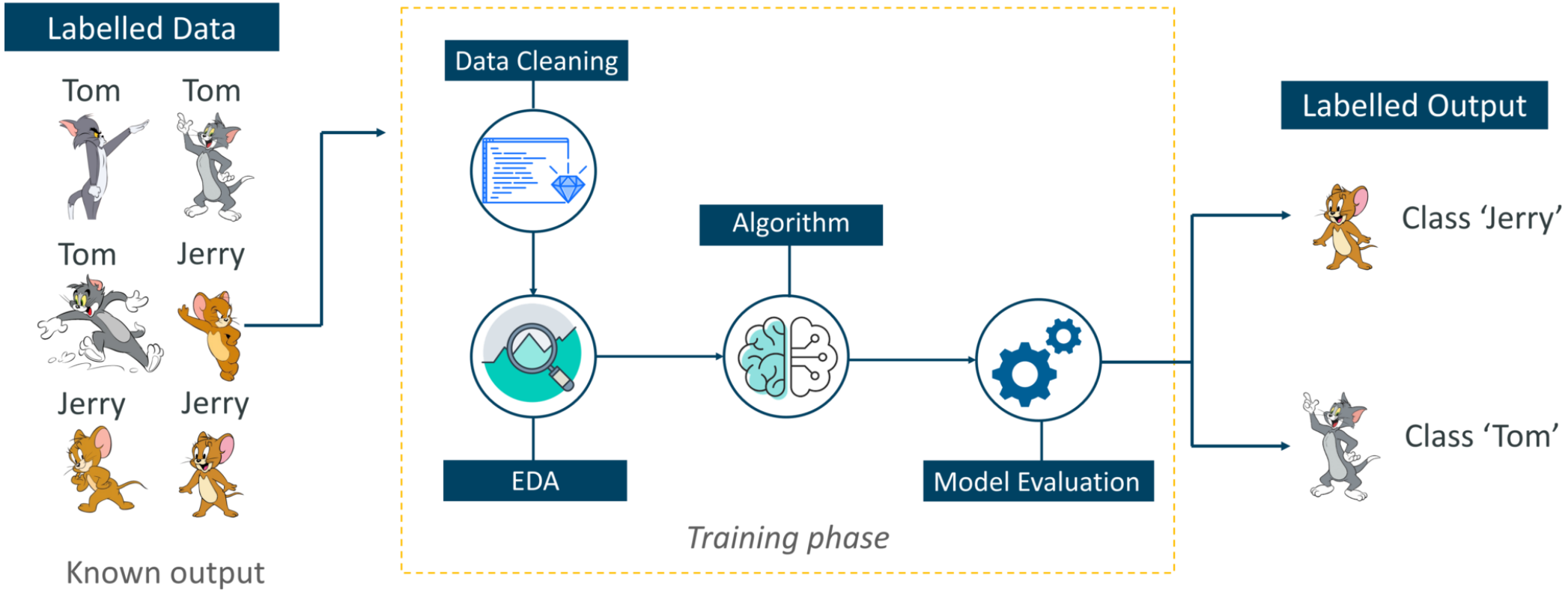
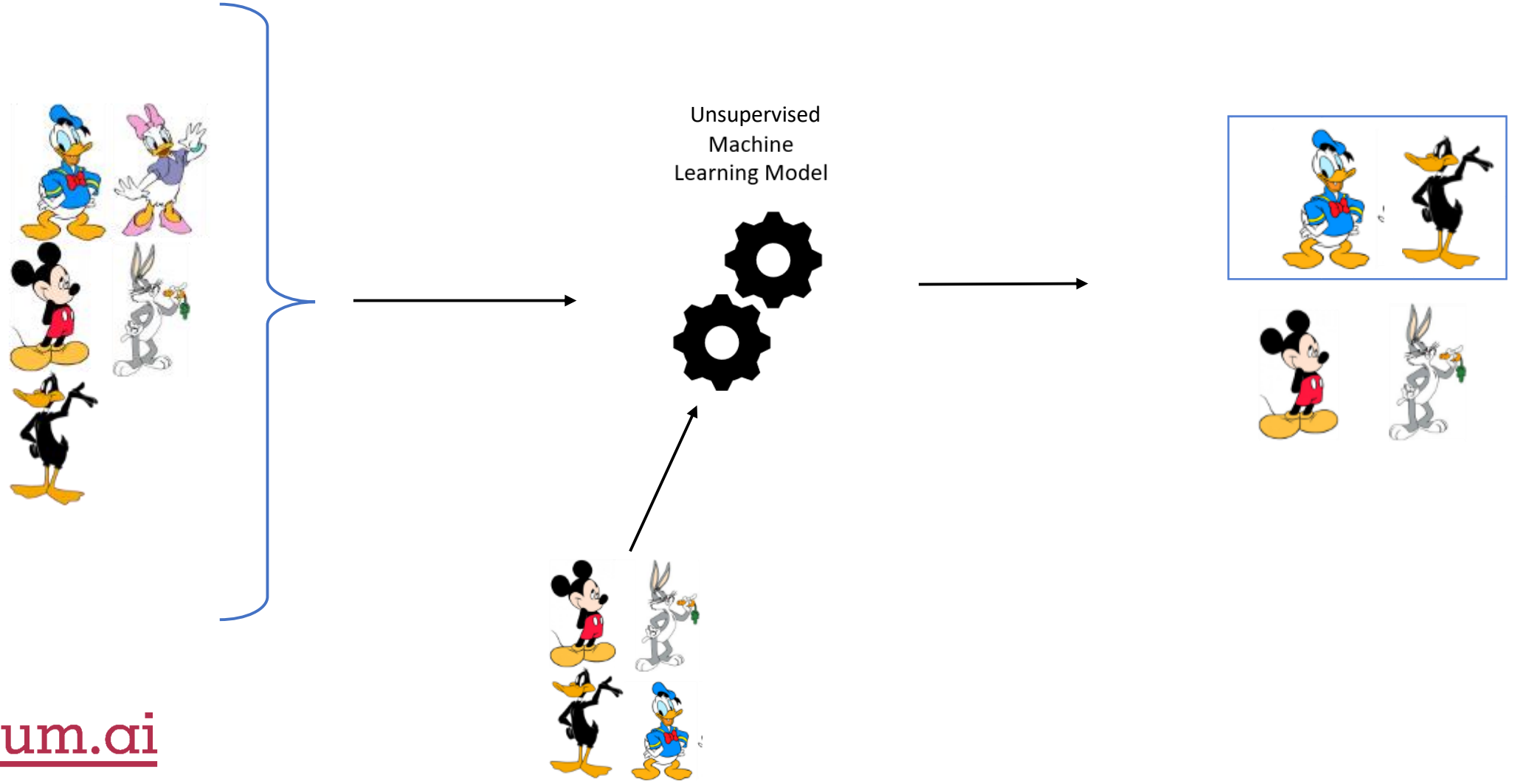
Supervised Learning

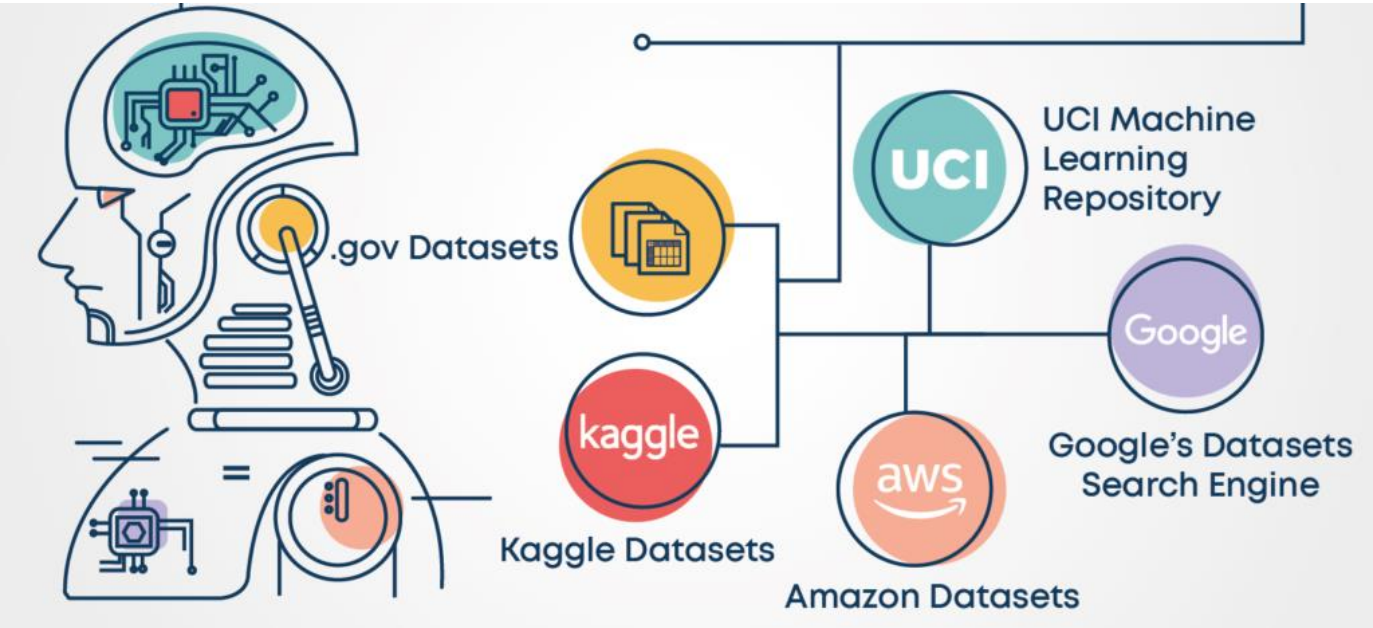


Unsupervised Learning



Data Collection

- Open Sources
- Web Scraping
- Online Survey
- And lots more ways



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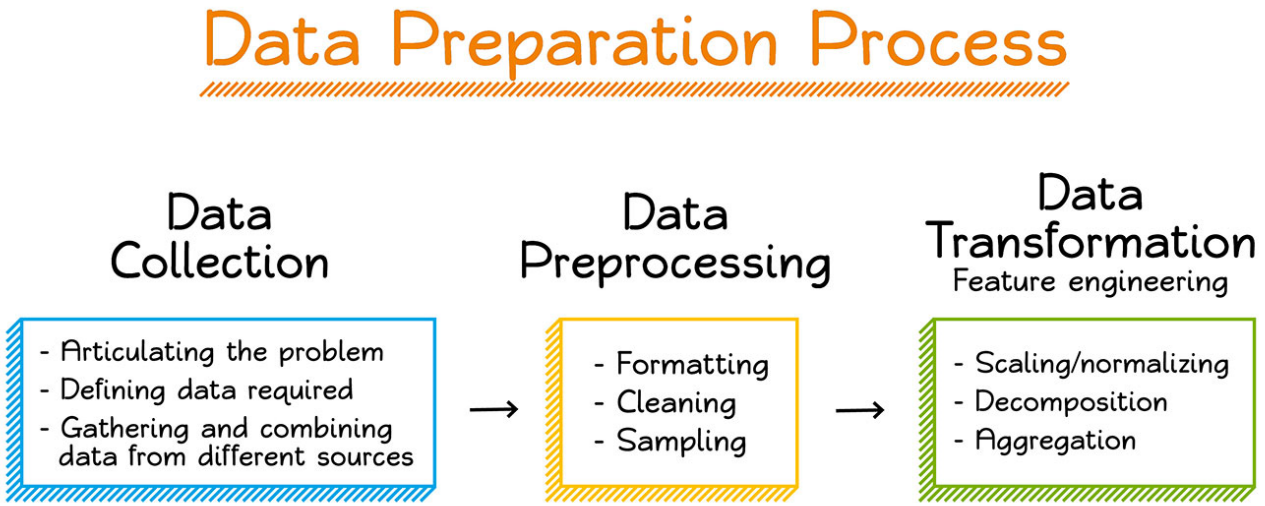
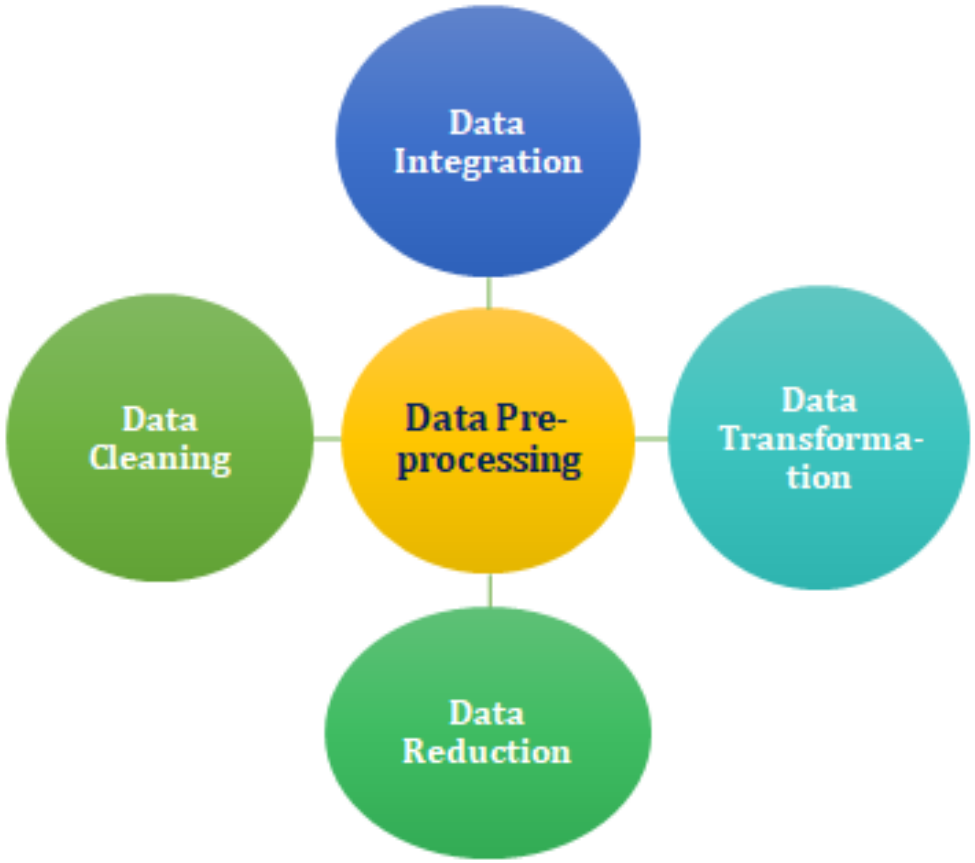
Data Preparation

- Data Collection
- Data Preprocessing
- Data Transformation



Data Preprocessing

- Data Cleaning
- Data Integration
- Data Transformation
- Data Reduction



Machine Learning Algorithms

	Supervised	Unsupervised
Continuous	Regression Linear Polynomial Decision Trees Random Forests Nerual Networks	Clustering & Dimensionality Reduction SVD PCA K-Means
Categorical	Classification KNN Trees Logistic Regression Naive-Bayes SVN Nerual Networks	Association Analysis Apriori FP-Growth Hidden Markov Model

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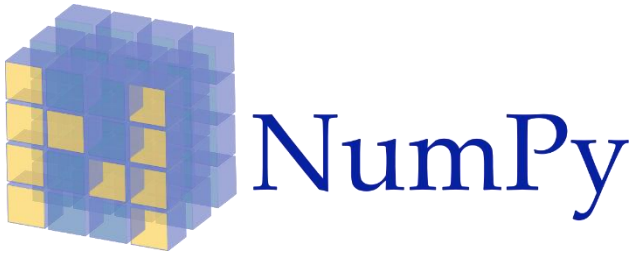
Environment Setup for Day-02

- Anaconda
- Pandas
- NumPy
- Matplotlib
- Scikit-learn
- VS Code



Visual Studio Code

Conclusion

What we learned today?

- Why choose ML
- What is ML
- Type of ML
- Data Collection
- Data Processing & Preprocessing
- ML Algorithms
- Environment setup

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Congratulations!

Thanks for joining workshop

Workshop repository link:
https://github.com/harunurrashid97/ML-Hands-on-Workshop-IEEE-Day2020

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