Introduction to Machine Learning and Data Science

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What is Machine Learning?

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- It's about creating models that can generalize patterns from data.

Machine Learning as a School

Metaphor: A School for Machines

- Imagine building a school for machines.
- Our goal: Teach machines to learn and make decisions autonomously.
- Similar to how children come to school, machines learn from data.
- After training, machines leave with knowledge and competences.

Key Components of the "School"

- **Students (Machines):** Our machines are the students of the school.
- **Teachers (Data):** The data serves as the teachers, providing information for the machines to learn.
- **Curriculum (Algorithms):** Algorithms act as the curriculum, guiding the learning process.
- **Graduation (Model Deployment):** Once trained, machines graduate and are ready to apply their knowledge in real-world scenarios.

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- Handling large and diverse datasets.
- Making predictions and decisions in real-time.

Examples of Machine Learning Applications

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- & many more...

Difference between AI, ML, and DL

Artificial Intelligence

Computers that can imitate human intellect and behavior.

Machine Learning

Statistical algorithms that enable AI implementation through data.

Deep Learning

Subset of machine learning which follows neural networking.