SynthesisTalk Export

Machine learning is a subset of artificial intelligence (AI) that involves the use of algorithms to enable a system to improve its performance on a specific task over time without being explicitly programmed. It focuses on developing computer programs that can learn from and make predictions or decisions based on data, rather than following explicit instructions.

Key aspects of machine learning include:

1. **Data**: The foundation of machine learning is data. It consists of historical data, new data, and labels (when applicable).
2. **Algorithm**: Different types of algorithms are used depending on the task at hand. Common types include supervised learning (where the model learns from labeled data), unsupervised learning (learning from unlabelled data), semi-supervised learning (a mix of both), and reinforcement learning (learning through trial and error in an environment).
3. **Model**: The algorithm creates a model that is trained on the data to learn patterns or make predictions.
4. **Evaluation**: Once the model is trained, it is evaluated based on its performance on new, unseen data.

Machine learning has numerous applications across various fields such as image recognition, speech recognition, natural language processing, recommendation systems, and many more.