

3/21

10/10 Semester 1

Unit 1: AI & ML

Learning Day

Topic - Pattern Recognition (bottoms up approach and top-down approaches)

Pattern recognition is a branch of AI that deals with the automatic recognition of patterns in data. It is a sub-field of machine learning and is used in a wide range of applications, from image and speech recognition to fraud detection and medical diagnosis.

There are two main approaches to pattern recognition: bottom-up and top-down.

Bottom-up approach: This approach starts with the data and builds up a model from the bottom up. It is also known as feature-based or template-based recognition. In this approach, the system is trained on a set of examples and learns to recognize patterns by comparing them to the learned templates. This approach is often used for image and speech recognition.

Top-down approach: This approach starts with a high-level model and refines it as more data is processed. It is also known as model-based or knowledge-based recognition. In this approach, the system is trained on a set of examples and learns to recognize patterns by comparing them to the learned model. This approach is often used for medical diagnosis and fraud detection.

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के द्वारा प्रस्तावित करते हैं। इसके अलावा, वे प्रस्तावित करते हैं कि प्रस्तावित सिद्धांतों को प्रमाणित करने के लिए प्रयोगों की आवश्यकता है।

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 (2) प्रारंभिक सिद्धांतों (Prototypes)

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