

YouTube Semantic Search



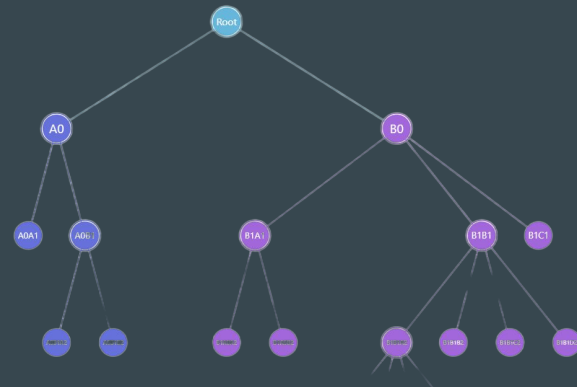
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Research Project

Traditional keyword-based searches struggle to capture the nuances of language and context.

We develop an AI model (YouTube Semantic Search) that discovers educational YouTube videos based on user prompts.

Embedding-based Semantic Search: capture semantic relationships based on embedding matrix



Our Process

YouTube API

Sentence Transformers (all-MiniLM-L6-v2)

Nearest Neighbors/Cosine Similarity

Model Application

Query: Explain the key concepts of Bayesian Networks



Top Matching Videos:

1. Bayesian Network (https://www.youtube.com/watch?v=480a_2jRdK0)

Match: **83.90%** vs **75.51%** for YouTube algo

2. What is Bayesian Networks in Machine Learning?

(<https://www.youtube.com/watch?v=nA-S1Oh0mUY>)

Match: **81.88%** vs **78.76%** for YouTube algo

Welcome to our comprehensive guide on Bayesian Networks in Machine Learning. This video is part of our ongoing series ...

3. What is a Bayesian network? (<https://www.youtube.com/watch?v=97KBdmSQEJ0>)

Match: **77.0%** vs **75.16%** for YouTube algo

Very brief introduction to Bayesian networks using the classic Asia example.

4. Bayesian Network with Examples | Easiest Explanation

(<https://www.youtube.com/watch?v=DVnubVOjZtq>)

Match: **75.43%** vs **71.65%** for YouTube algo

Subscribe to our new channel: <https://www.youtube.com/@varunainashots> ▸ Artificial Intelligence (Complete Playlist): ...

5. Bayesian Network | Introduction and Workshop

(<https://www.youtube.com/watch?v=mebXoVrfchg>)

Match: **75.22%** vs **44.69%** for YouTube algo

Bayesian Network is a model that allows for probabilities of all events to be connected to each other and we could easily make ...

Model Application: SS VS. Youtube's Algorithm

Youtube Top 5 Results

What is Bayesian Networks in Machine

Learning? — 3:00 min | 3.4 K views | 1 yr ago

What is a Bayesian network? — 3:04 min | 43 K

views | 2 yrs ago

1 What is a Bayesian network — 2:14 min | 19

K views | 2 yrs ago

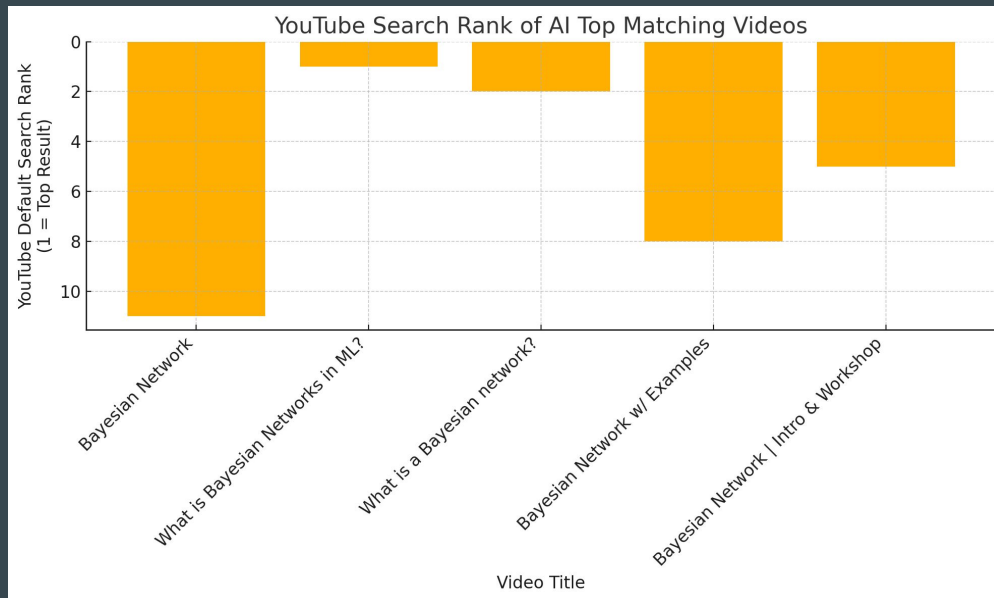
Introduction to Bayesian statistics, part 1: The

basic concepts — 9:12 min | 527 K views | 9 yrs

ago

Bayesian Network | Introduction and

Workshop — 7:54 min | 21 K views | 2 yrs ago



Results show where the matching videos showed up on the Youtube search given the same algorithm