EMS702P Statistical Thinking and Applied Machine Learning

Week 10.3 – Deep Learning: Engineering applications

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Deep learning

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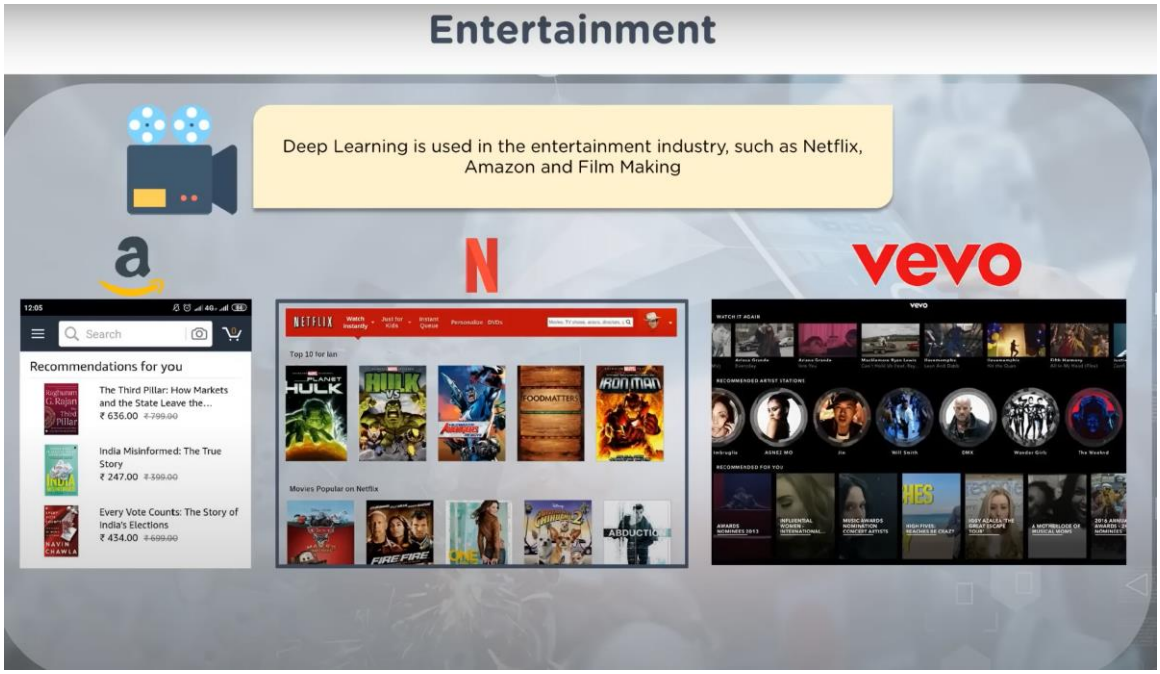
Deep Learning:

Neural networks with multiple hidden layers

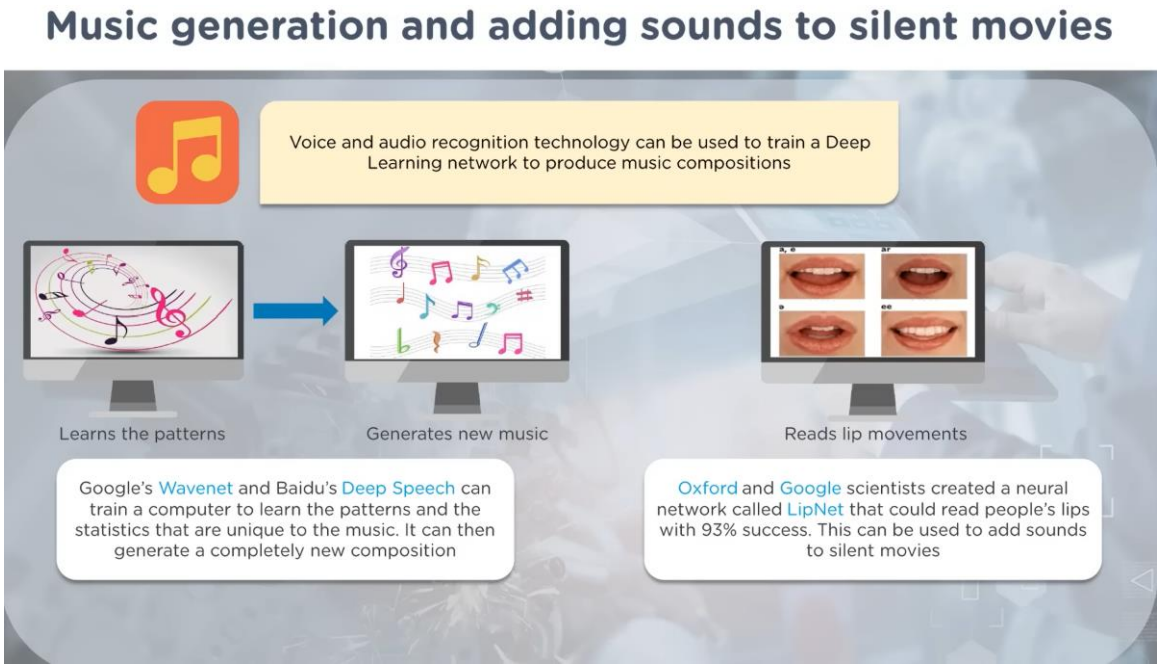
Some engineering applications using Deep Learning:

- **Classification**
- **Prediction (Regression)**
- **Clustering (Segmentation)**

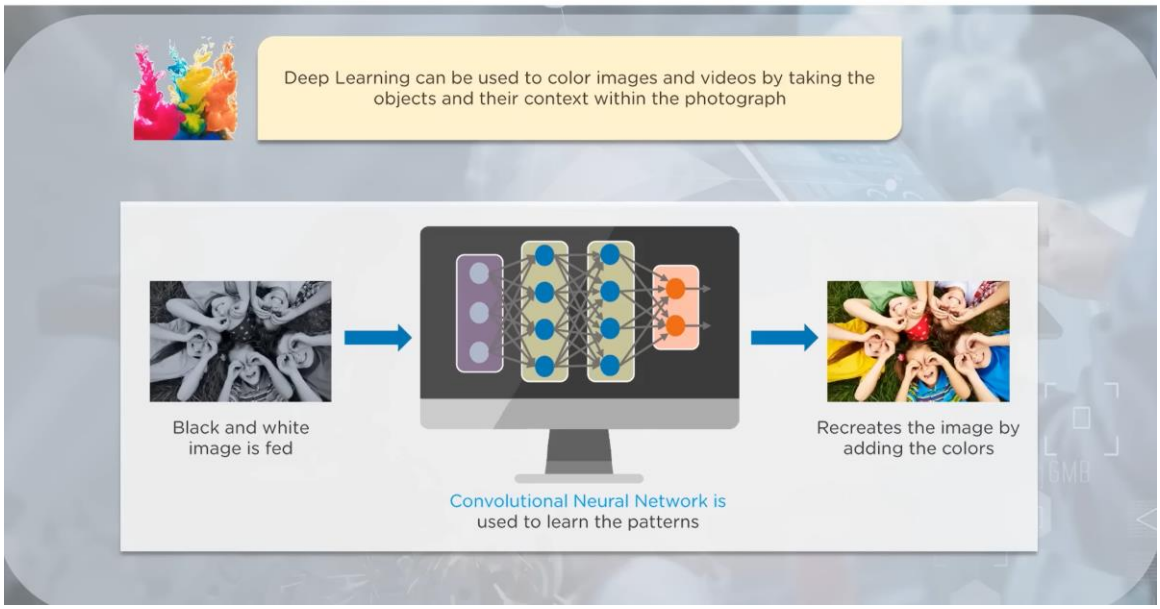
Deep Learning helps in early detection of cancer cells and tumors, improves the time-consuming process of synthesizing new drugs, and invents sophisticated medical instruments.



Amazon, Netflix and Vevo use recommender systems to provide a personalized experience to its viewers using their show preferences, time of access, history, etc.



Coloring images and videos



Robotics

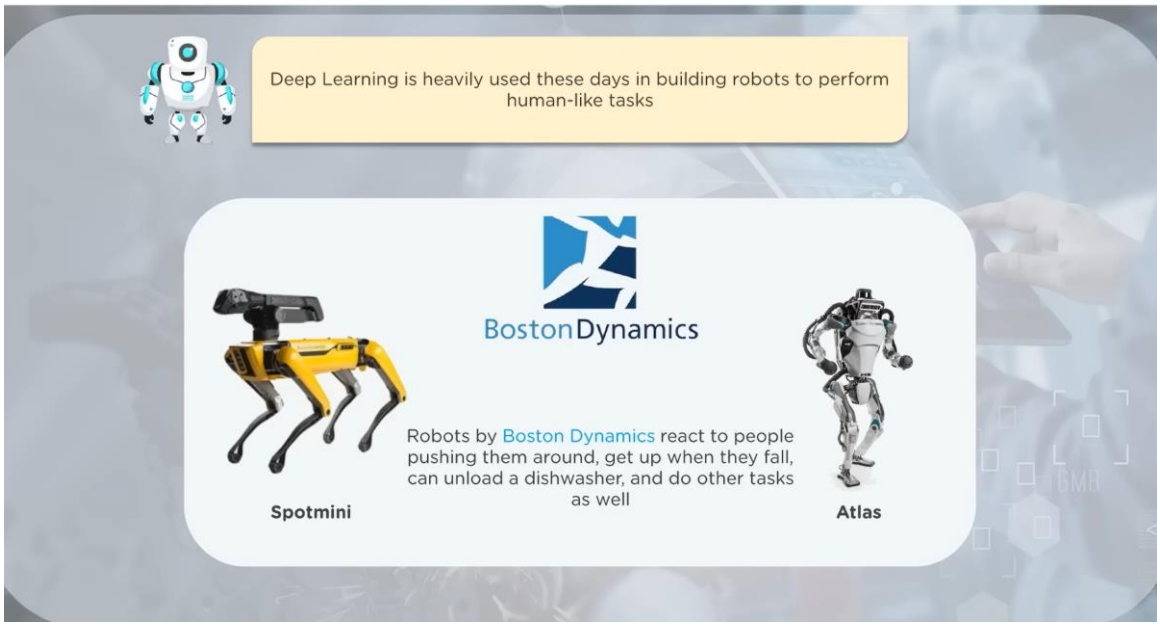
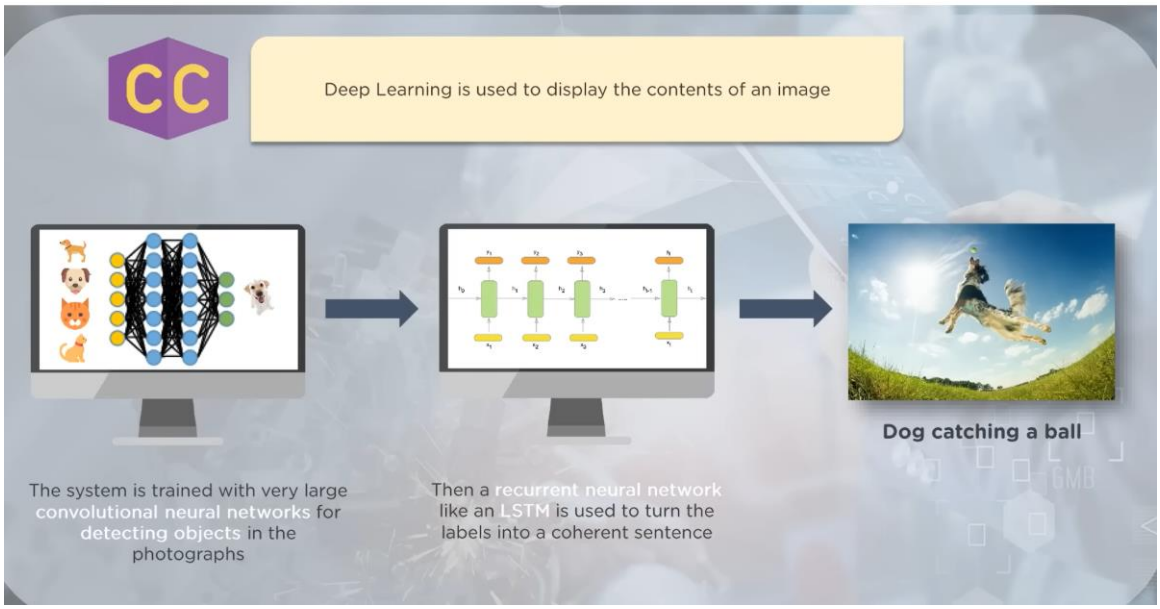
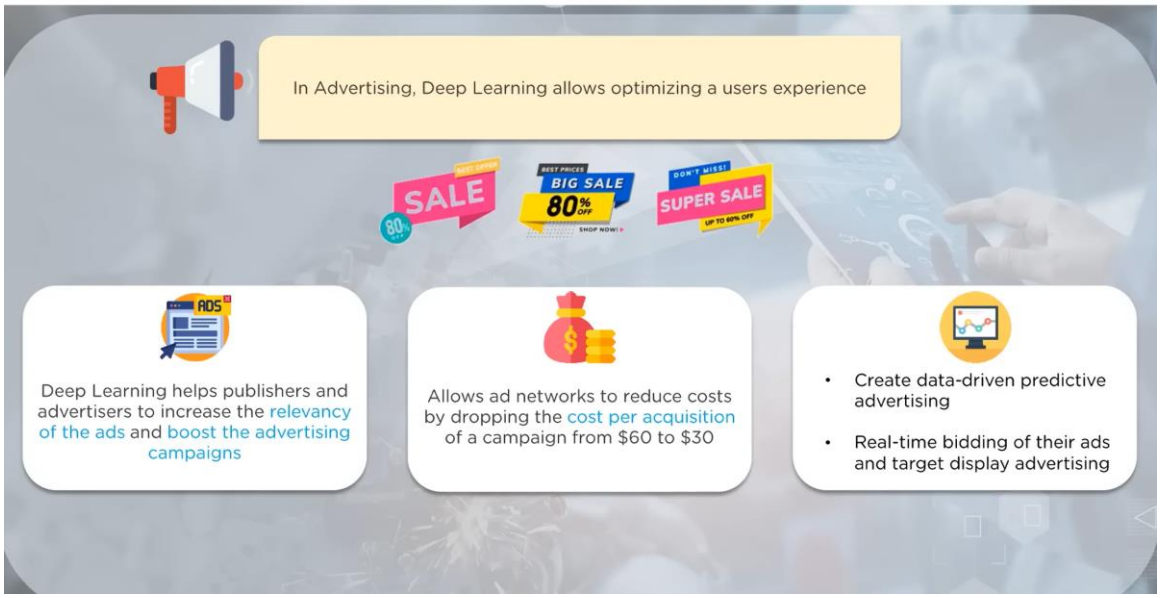


Image caption generation



Advertising



Earthquake prediction