

Write a 150 – 200-word explanation of transfer learning using a real-world analogy. Use example from any domain.

Transfer learning is the application of knowledge from one domain to another. For instance, if a model is trained to recognize images using a large dataset, the pre-trained model can then be adapted for image recognition in other areas, where image recognition is required. One of the most common uses for image recognition is healthcare. Transfer learning is applied in image recognition for cancerous cells. Rather than train cancerous images from scratch, the pre-trained model used in general image recognition can be used to fine tune images related to cancerous cells.

Another application of transfer learning is in customer service. Large models can be trained to generate responses on commonly asked questions. Once the model has been trained, the pre-trained model is then applied to specific industries, tailoring answers based on prompts entered by customers. For example, a pre-trained model can be tailored to answer customer questions in the field of retail. That same pre-trained model can be tailored to customers in the banking sector. In both cases, fine-tuning the model means that the response generated will be specific to that industry.