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Aim: Explore the working of any pre trained model towards outcome generation.

Theory:
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Transfer Learning

It is a machine learning technique where a model trained on one task is reused adapted for a different but related task. Instead of starting the learning process from scratch, the model leverages knowledge gained from solving one problem and applies it to a different but related problem.

In practice, this often involves taking a pre trained model, typically trained on a large dataset for a specific task, and fine tuning it on a smaller dataset for a similar task. By doing so, transfer learning can significantly reduce the amount of labeled data and computational resources required to train a model, while often improving its performance compared to training from scratch. It's particularly useful in scenarios where labeled data is scarce or expensive to obtain.

Some well known pre trained models include

- 1) Image Net pre trained Convolutional Neural Networks (CNN) like VGG, ResNet, Inception and Efficient for image classification tasks.

- 2) BERT (Bidirectional encoder Representations from Transformers) for natural language understanding
- 3) GPT (Generative pre trained Transformer) models for various natural language processing tasks such as text generation, summarization, and question answering
- 4) WaveNet for speech synthesis
- 5) MobileNet V2 is a CNN architecture designed for mobile and embedded vision applications. It is an evolution of the original MobileNet architecture, developed by researchers at Google.

Conclusion:

Our experiment on transfer learning has demonstrated the efficacy in enhancing outcome generation tasks. By leveraging pre-trained models and fine tuning them on our specific dataset.