K-Nearest Neighbors (KNN) and Hierarchical Temporal Memory (HTM) are two different types of classifiers used in machine learning, each with its own unique approach and characteristics. Let's break them down:

**K-Nearest Neighbors (KNN)**

1. **Algorithm Type**: KNN is a **supervised** learning algorithm.
2. **Approach**: It is a **lazy learner**, meaning it doesn't learn a discriminative function from the training data but memorizes the training dataset instead.
3. **How It Works**:
   * **Distance-Based**: KNN classifies a data point based on how its neighbors are classified. The most common distance metric used is Euclidean distance.
   * **Voting Mechanism**: It looks at the 'k' closest data points to the one being classified and assigns the most common class among those neighbors.

**Hierarchical Temporal Memory (HTM)**

1. **Algorithm Type**: HTM is based on **unsupervised** learning principles, although it can be adapted for supervised tasks.
2. **Approach**: HTM is inspired by the structure and functioning of the neocortex in the human brain.
3. **How It Works**:
   * **Pattern Recognition**: HTM learns sequences of patterns over time and can predict future patterns based on learned sequences.
   * **Temporal Memory**: It has the ability to remember the temporal ordering of patterns and make predictions based on this memory.
   * **Sparse Distributed Representations (SDRs)**: HTM uses SDRs to represent information, which makes it robust and efficient.