# Introduction to machine learning

Self-Driving Car:

* Input: Sensor data from cameras, LiDAR, radar, and other onboard sensors, along with GPS information, traffic signals, road markings, and environmental conditions.
* Output: Control signals for steering, acceleration, and braking, as well as decisions on lane changes, speed adjustments, and responses to traffic scenarios.

Netflix Recommendation System:

* Input: User data, including past viewing history, ratings, genre preferences, search queries, and contextual information such as time of day and device used for streaming.
* Output: Personalized recommendations of movies and TV shows based on user preferences, including suggestions for similar content, trending titles, and personalized genres.

Signature Recognition:

* Input: Scanned or digital image of a signature or a sequence of pen strokes.
* Output: Verification of the signature's authenticity or identification of the signer based on comparison with reference signatures or a pre-trained model.

Medical Diagnosis:

* Input: Patient data such as medical history, symptoms, lab test results, imaging scans, and patient demographics.
* Output: Diagnosis or probable medical condition, including disease classification, risk assessment, treatment recommendations, or predictions of disease progression based on the analysis of input data.