Face Detection App

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Overview

Google Teachable Machine- Introduction

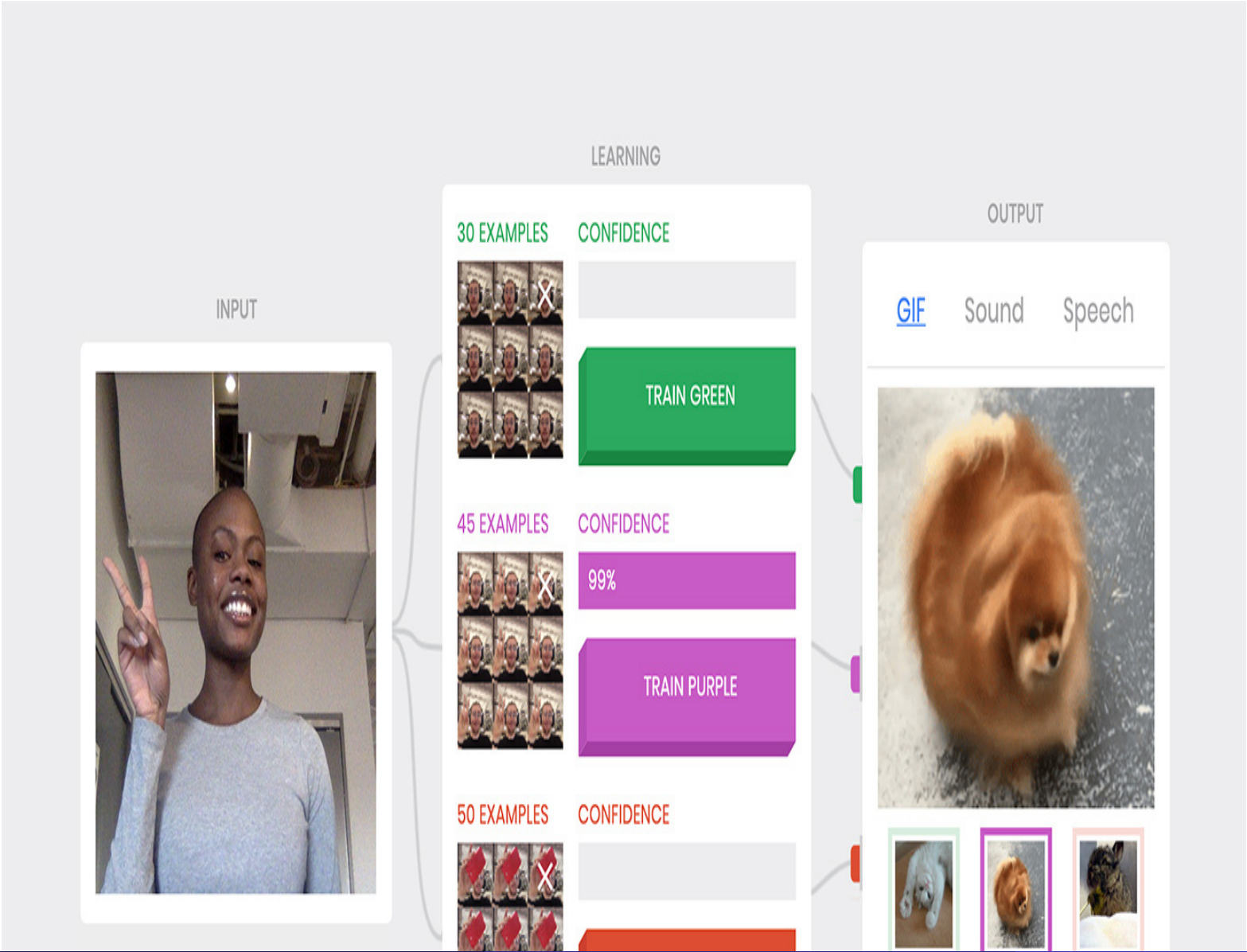
The site https://teachablemachine.withgoogle.com/ is a move that reflects the current trend of the personalization of AI in shifting the algorithms from the Cloud to the user's space, be it their desktop, their phone or other smart device. That's not the biggest problem though; the real issue is that the models used for training the algorithms under the common supervised learning model, require massive datasets and excessive amounts of CPU power. So as the situation currently stands, the bulk processing is done on the Cloud by Platform as a Services which offer Machine Learning as plug and play API's which encapsulate the necessary pre-trained algorithms, with offerings including tone analysis, visual recognition or conversation analysis. Prevalent examples of such PaaS are Haven OnDemand and IBM's Watson/BlueMix.

Google Teachable Machine- Face Recognition

Facial recognition is a way of identifying or confirming an individual's identity using their face. Facial recognition systems can be used to identify people in photos, videos, or in real-time. Facial recognition is a category of biometric security. Other forms of biometric software include voice recognition, fingerprint recognition, and eye retina or iris recognition. The technology is mostly used for security and law enforcement, though there is increasing interest in other areas of use.

Google Teachable Machine- Examples

Example of use in Google Teachable Machine



Examples of facial recognition technology

- Amazon previously promoted its cloud-based face recognition service named Rekognition to law enforcement agencies
- Cigna, a US-based healthcare insurer, allows customers in China to file health insurance claims which are signed using a photo
- Coca-Cola has used facial recognition in several ways across the world. Examples include rewarding customers for recycling at some of its vending machines in China
- Facebook began using facial recognition in the US in 2010 when it automatically tagged people in photos using its tag suggestions tool.
- MAC make-up, uses facial recognition technology in some of its brick-and-mortar stores, allowing customers to virtually "try on" make-up

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Face Detection

Locate one or more faces in the image and mark with a bounding box.

Face Alignment.

Normalize the face to be consistent with the database, such as geometry and photometrics.

Feature Extraction.

Extract features from the face that can be used for the recognition task. Perform matching of the face against one or more known faces in a prepared database.