

Web Application for Generating Image Descriptions Using Natural Language

Processing and Computer Vision Techniques

Abstract:

This project involved the creation of a functional, deployable web application that automatically generates descriptions or “captions” for uploaded images. It consists of two parts, the computational engine that handles the image description generation and the actual web application that hosts and interfaces with this service. The caption generation engine combines some existing CV and NLP engines, namely TensorFlow’s im2txt algorithm and Clarifai’s Image Recognition API in a novel way to generate captions for images. The web application interface for the caption generation uses the Flask web framework (Python) for the back-end, ReactJS (JavaScript) for the front-end interactions, and ReactBootstrap (CSS) for the user interface styling.