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**Image Detection of Simpson’s characters**

**Abstract**

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### **Abstract**

Object detection and image classification are at the forefront of computer vision technologies with varied applications in Society today. Recent advancements in facial detection based surveillance in the Security industry, pedestrian/object detection in self-driving cars built by the Automobile industry, automated valuation of properties in the Real Estate industry, are just some examples of the varied types of applications for this cutting edge technology.

Utilizing the popular 30-season show The Simpsons, this project implements object detection and image classification for characters from the Simpsons series. Various Deep Learning architectures like Convolutional Neural Network (CNN), Faster Region-based Convolutional Neural Network (R-CNN), You Only Look Once (YOLO), and Single Shot Multi-box Detection (SSD) have been explored. As a secondary focus, this project has applied one of the image detection models to videos and explored the use of Cloud computing to train and execute models. Visualizations and a User Interface (UI) to enable a real-time data feed to model execution have been included.

The underlying research and concepts can be extended for use in a commercial enterprise as described above.