Person-vehicle-bike-detection-2004 Model Card

Model Card

Model Details

- This is a person, vehicle, bike detector that is based on MobileNetV2 backbone with ATSS head for 448x256 resolution.
- It takes input as image in the format B (Batch size), C (number of channels), H (image height), W (image width) and provides output of the same video on a grid (user configuration of x streams)

Intended Use

- Our application uses this model for AI inferencing on input video and we collect metrics while the pipeline is running
- This model is specifically designed for detecting and classifying persons, vehicles, and bikes. Use cases that involve different object categories, specialized object detection, advanced image processing, contextual analysis, or real-time applications would be out of scope for this specific implementation.

Training and validation data

- We are not training or validating this model in our application tool

Ethical Considerations

- We are using person-bicycle-car-detection.mp4 from https://github.com/intel-iot-devkit/sample-videos as input video to test this application tool.
- We are not storing any person or user related personal information.

Caveats and Considerations

- The model's accuracy may vary depending on the quality and resolution of the input images. Ensure that the images used are of sufficient quality for reliable detection.
- Preprocess images to normalize lighting conditions and remove noise.

Quantitative Analysis

- We are not doing quantitative analysis in this application tool but we do display metrics mentioned below to the user.

Factors

- We are also not evaluating this model in this application tool

Metrics

- We are displaying metrics including throughout (FPS) and system level metrics: CPU/GPU utilization, memory utilization, CPU/GPU frequency, CPU/system temp, GPU power, GPU engine, and package power. In this application these metrics are collected and displayed to the user via gauges.