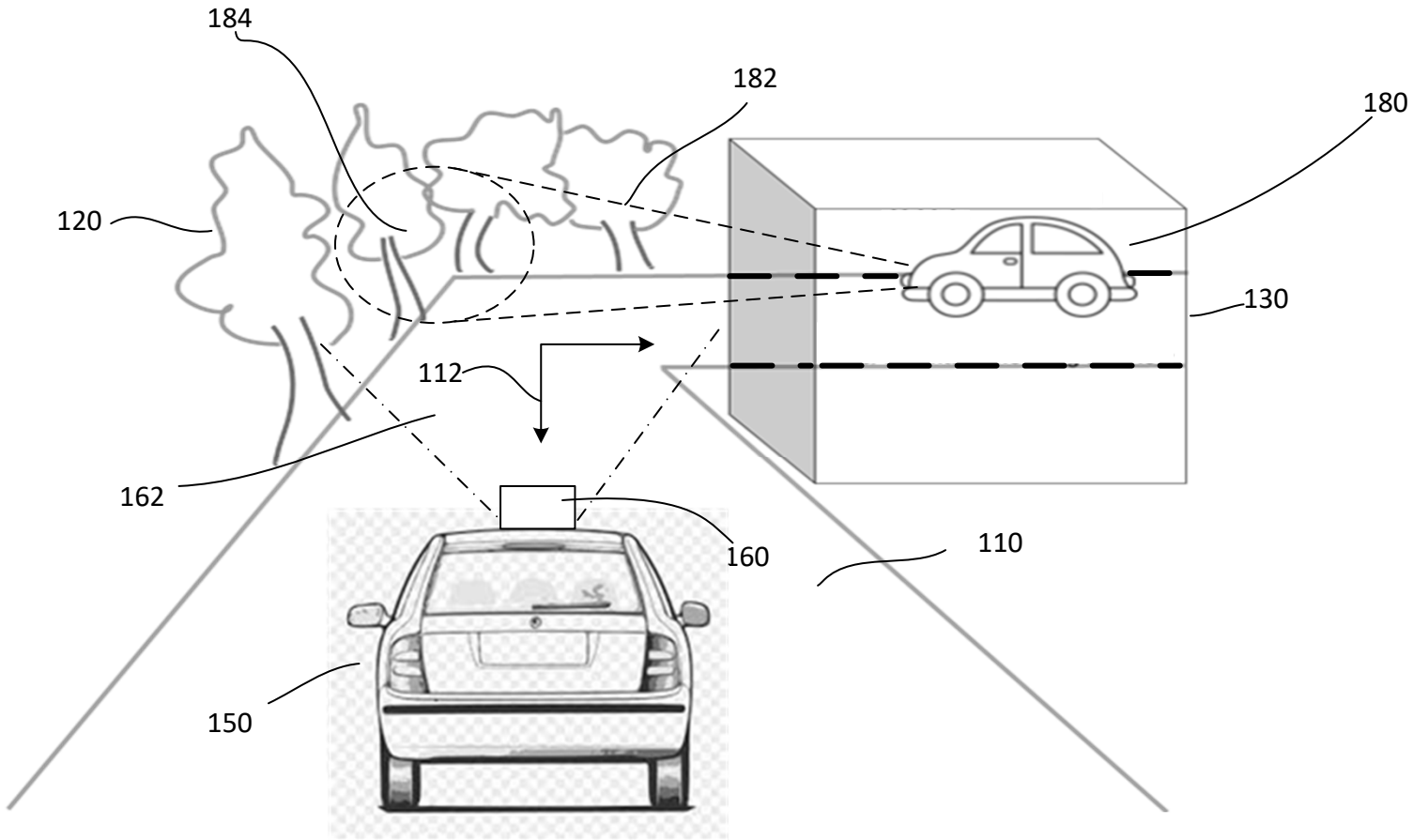


Fig. 1

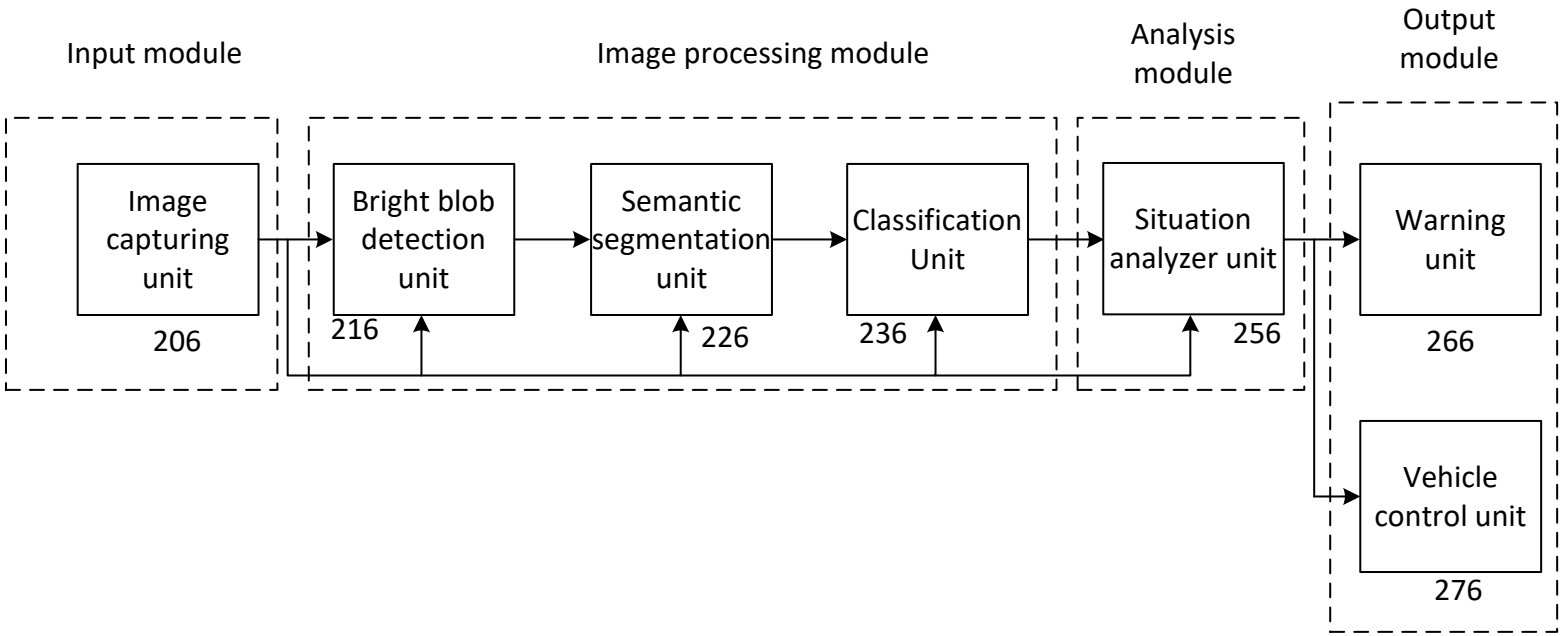
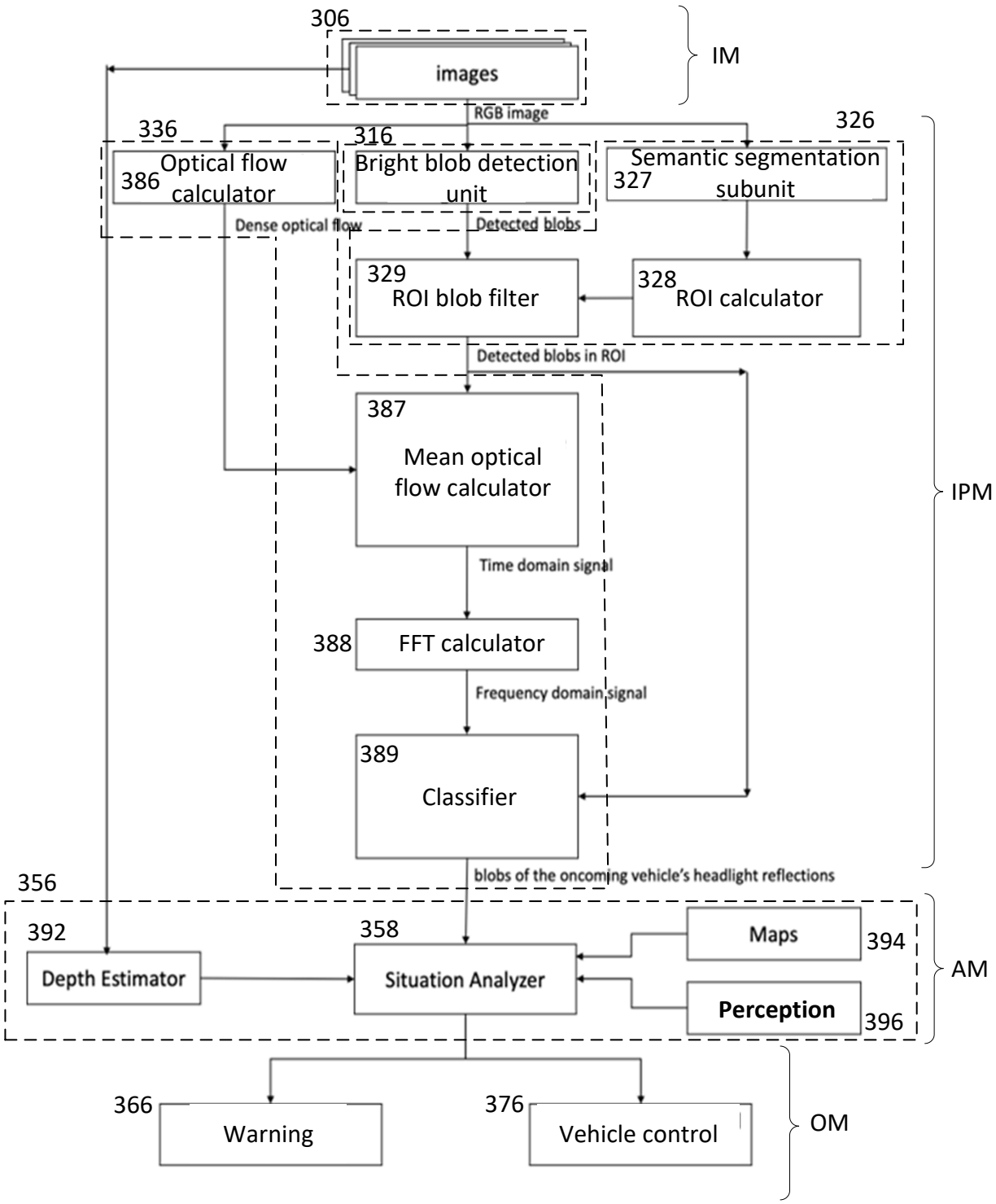
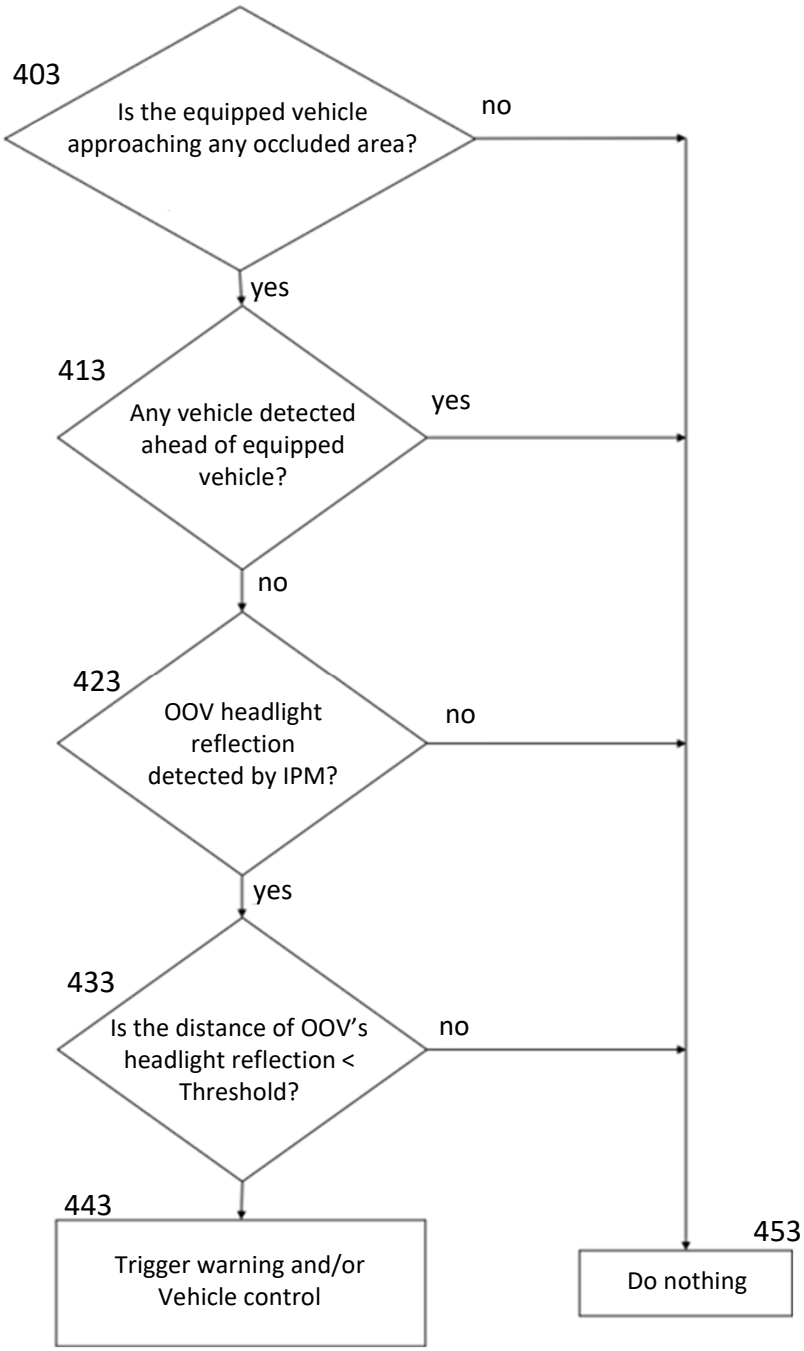

Input module
Image processing module
Analysis module
Output module
Image capturing unit
206
Bright blob detection unit
216
Semantic segmentation unit
226
Classification Unit
236
Situation analyzer unit
256
Warning unit
266
Vehicle control unit
276
200

Fig. 2


306
images
IM
RGB image
336
316
326
386
Optical flow calculator
Bright blob detection unit
327
Semantic segmentation subunit
Dense optical flow
Detected blobs
329
ROI blob filter
328
ROI calculator
Detected blobs in ROI
387
Mean optical flow calculator
IPM
Time domain signal
388
FFT calculator
Frequency domain signal
389
Classifier
blobs of the oncoming vehicle's headlight reflections
356
392
Depth Estimator
358
Situation Analyzer
Maps
394
Perception
396
AM
366
Warning
376
Vehicle control
OM

300

Fig. 3


403
Is the equipped vehicle approaching any occluded area?
no
yes
413
Any vehicle detected ahead of equipped vehicle?
yes
no
423
OOV headlight reflection detected by IPM?
no
yes
433
Is the distance of OOV's headlight reflection < Threshold?
no
443
Trigger warning and/or Vehicle control
453
Do nothing

400

Fig. 4

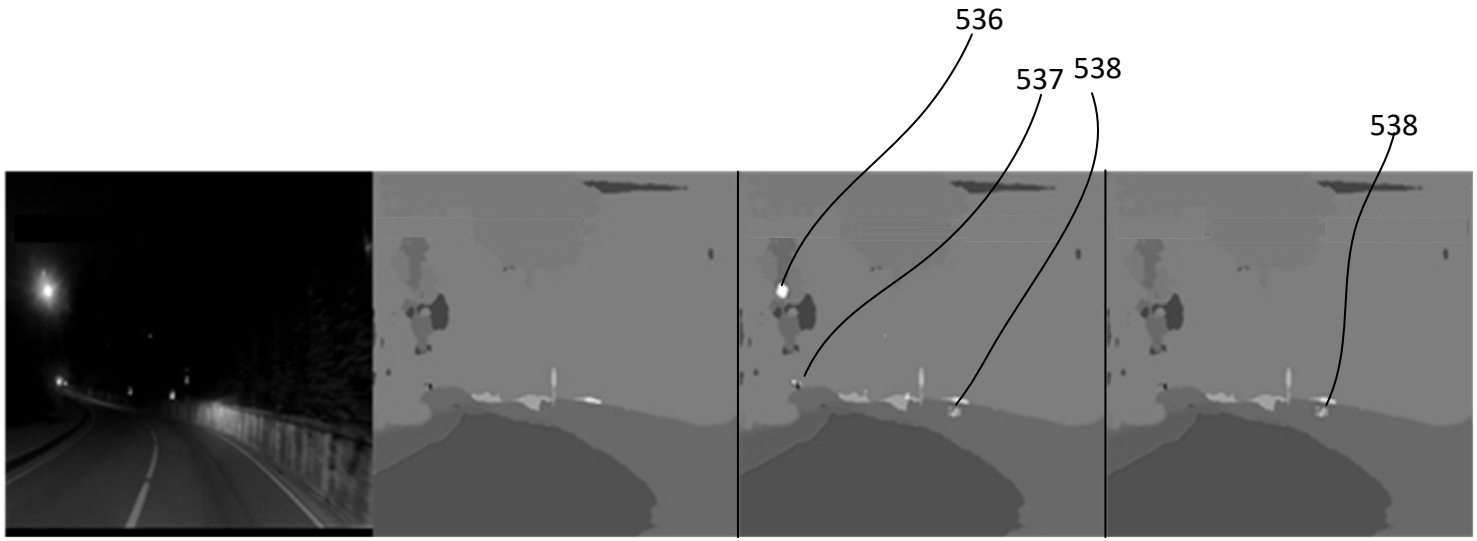


Fig. 5

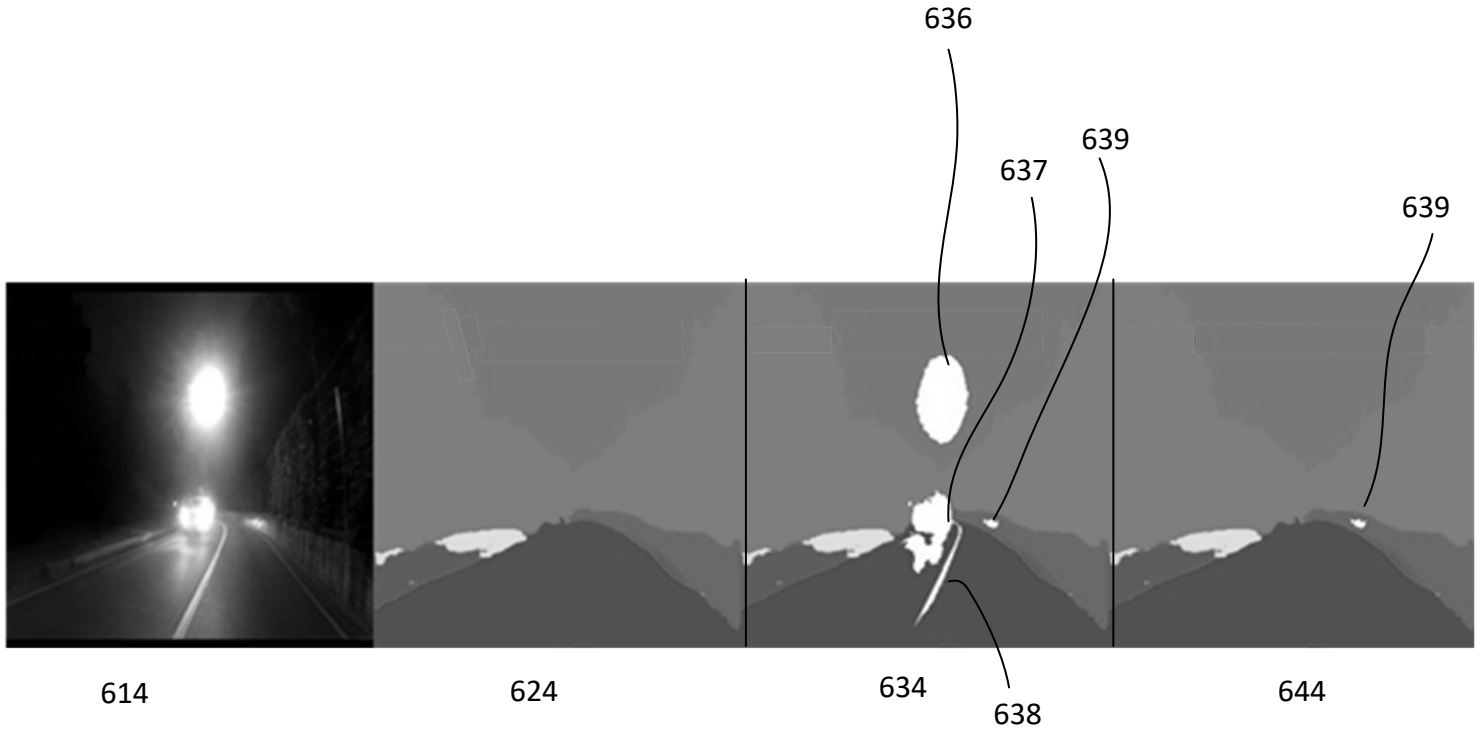


Fig. 6