INDEX

active front steering, 68, 82
ADAS. See advanced driver
assistance systems
advanced driver assistance
systems, 2, 5, 22, 109, 110
AEB. See autonomous
emergency braking
AES. See autonomous
emergency steering
AFS. See active front steering
AI. See artificial intelligence
0
ANN. See artificial neural
network
artificial intelligence, 5, 8, 11,
42, 91
artificial neural network, 47-
52, 54
autonomous emergency
braking, 43, 92, 104–06, 111
autonomous emergency
steering, 43
autonomous vehicle, 1, 58–60,
65, 70, 76, 83, 87–91, 95,
104-06
AV. See autonomous vehicle

batteries, 3

CAFÉ. See corporate average fuel efficiency cameras, 3, 5, 46
CAVs, 22, 28, 38–39
charging, 3–4, 9, 11
CNN. See convolutional neural networks
CoEXist, 21, 32–33
conventional vehicles, 28, 32, 34
convolutional neural networks, 47
corporate average fuel efficiency, 4

behaviour, 28, 31, 83-84, 88,

DAPRA. See Defence Advanced Research Projects Agency Defence Advanced Research Projects Agency, 20 DiL. See driver-in-the-loop driver-in-the-loop, 90–91

CVs. See conventional vehicles

electric motors, 3

electric vehicles, 2–3, 7, 9–11
Environment Protection
Agency, 4
EPA. See Environment
Protection Agency
EV. See electric vehicles

field-programmable gate array, 92

FPGA. *See* field-programmable gate array

Fuzzy-PID. *See* fuzzy-proportional integral derivative

fuzzy-proportional integral derivative, 72, 76–77

GPS, 3, 49

IPG CarMaker, 87, 89, 91–93, 96, 101–04, 107–11

killed and seriously injured, 42 KSI. *See* killed and seriously injured

LabVIEW, 92
lane keep assist system, 107,
111
LIDAR. See light detection and ranging
light detection and ranging, 3
LKAS. See lane keep assist
system

MaaS. See mobile as a service machine learning, 70, 84, 91 Malaysian road scenarios database, 103 market penetration rates, 27 MaRSeD. See Malaysian road scenarios database ML. See machine learning mobile as a service, 4 monocular vision distance estimation, 42, 51-52, 54 motion sickness incidence, 77, 79, 82–83 motion sickness, 68-71, 75, 77, 82 - 84motion sickness, 68, 77, 84–86 MPRs. See market penetration rates MS. See motion sickness MSI. See motion sickness incidence

ODD. See operational design domain OpenDRIVE, 93 operational design domain, 89, 90, 96–98, 100, 103

particle swarm optimization,
72
PID. See proportional integral
derivative

proportional integral derivative, 72, 76, 77

PSO. See particle swarm optimization

radar, 3, 43, 54
radial basis function neural
network, 71–72, 74–75 86
rapidly exploring random trees,
58, 61–66
RBFNN. See radial basis
function neural network
RMSE. See root mean squared
error
root mean squared error, 45

RRT. See rapidly exploring random trees

39

roundabout, 21-22, 25, 27, 31,

single shot detector localization, 44, 46, 50–52, 54

SSAM. *See* surrogate safety assessment model SSD. *See* single shot detector localization stanley controller, 72–73 surrogate safety assessment

time to collision, 19, 21–23

model, 14, 19, 21–23

TTC. See time to collision

V2C. See vehicle-to-cloud V2I. See vehicle-toinfrastructure V2P. See vehicle-to-pedestrian V2V. See vehicle-to-vehicle V2X. See vehicle-to-everything vehicle-in-the-loop, 90, 92 vehicle-to-cloud, 7 Vehicle-to-everything, 5–6 Vehicle-to-infrastructure, 6, 8 Vehicle-to-pedestrian, 6 Vehicle-to-vehicle, 6, 8 VEHIL, 92 VerifAI, 91 ViL. See vehicle-in-the-loop VISSIM, 19, 21–23, 28–30, 32, 36 - 37, 40VOSviewer, 14, 17, 19, 23

WHO. See World Health Organization World Health Organization, 42, 56

YOLO. See you only look once you only look once, 47–50, 56