

The modelling of autonomous control with hazard of measurement noise and errors

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Abstract: Autonomous vehicles are introduced to everyday life. Currently they are mainly on test tracks, but very soon they will be on our roads. The risk of vehicle mistake is currently discussed, and it mitigate the grow of public road application. Although the sensors for autonomous vehicles and algorithms make great progress, the risk of mistake and non-responsibility for that is still great problem. Especially when some error synergy appears and the system have to recognise mistake. The article discusses the typical design and sensors used for vehicle autonomy. The methodology of simulation of control system and sensors, with randomly modified scenarios of situation changing or sensor's fault is proposed. The model of control system with self-learning by experience is presented.

Keywords: Risk of autonomation, vehicle situation awareness sensors, machine learning, risk evaluation,