

Investigation and further development of a procedure to detect impaired drivers during road traffic controls

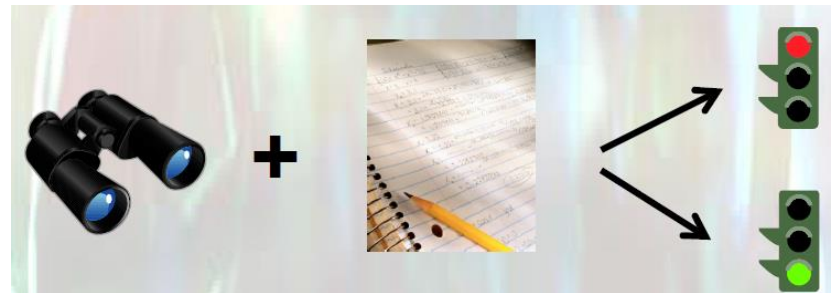
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1 Introduction

VERIFY is a procedure used in traffic controls by Zurich police officers to identify impaired drivers independent of causes of impairment. Police officers observe a driver's behaviour and appearance and conclude whether there is strong evidence for driving impairment. Then, a prosecutor is called, who will decide, whether the indications are sufficient to justify a blood or urine sampling at a hospital. We investigate ways to improve efficiency of the procedure.

3. VERIFY

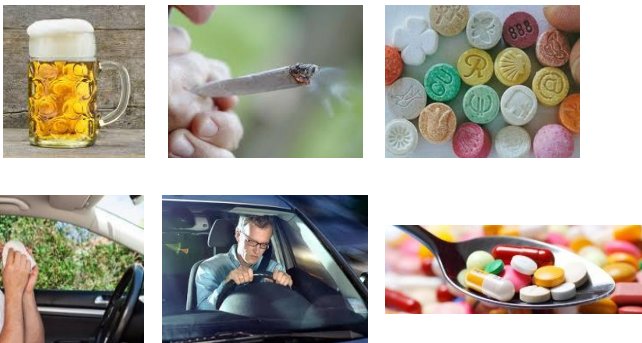
Observation (~3min)+ documentation = suspicion of driving impairment



Paying attention to points such as motor skills, attention, pupil reaction and size, speech, appearance.

2. Background Information

Examples of causes of impairment:



Common strategies to detect driving impairment at roadside

- Alcohol breathalyzer test
- Saliva drug test
 - Drug tests can not detect all drugs
 - Weekly: 1-2 new psychoactive substances developed
 - Low sensitivity



- No objective measurements of sleepiness
- VERIFY solves the issue of undetectable impairment since the method is independent of causes of impairment

4. Attention test (Menozzi et al. 2012)

The attention test is for screening visual skills.

Task: Six-digit numbers are super-imposed on a video of a drive and presented for 300 ms in the central and peripheral visual field → Reporting whether or not the integer '3' is included in the number by clicking a green/red button. When no number is flashed, a fixation cross is presented



5. Main goals of the project

1. Scientific confirmation of VERIFY
2. Combination of VERIFY and the visual attention test
 - Hit rate should be increased even more
 - Proving driving impairment caused by sleepiness