

DIPLOMA THESIS

Documentation

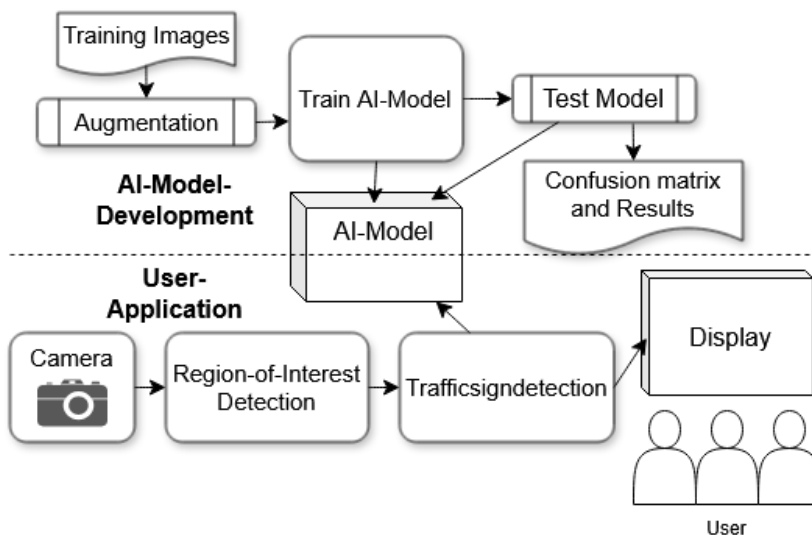
Author(s)	Markus Brandstetter
Form	5BHITS
Academic year	
Topic	TrafficSignDetection
Co-operation partners	Gerald Zottl

Assignment of tasks	<p>A system for recognizing traffic signs in real time is to be developed. Relevant traffic signs are to be recorded, titled and processed from the video data.</p> <ul style="list-style-type: none">• Use of computer vision and machine learning• Interpretation of recognized traffic signs• User-friendly display of recognized signs• Clear display of the applicable speed limit• Focus on clarity and minimal driver distraction
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Realisation	<p>First, images from the internet and image sections from self-created images and videos were collected to train and test the model. In the individual frames of a video or camera, possible panels are first recognized as geometric shapes. Only these interesting image sections are then passed to the AI for recognition. An app concept was developed but not implemented.</p>
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Results	<p>The system detects speed limits in real time with high accuracy and displays them clearly. It reduces driver distraction and is a promising basis for advanced driver assistance systems.</p>
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Illustrative graph, photo
(incl. explanation)



The technical overview graphic shows the process of AI model development, in which a dataset is extended through augmentation, a model is trained, stored and tested. In the user application, the camera first captures image data, which is further processed by region-of-interest object recognition and transmitted via character recognition with the stored model for the recognition of traffic signs, whereby the recognized characters are output to the user.

Participation in competitions
Awards

Accessibility of
final project thesis

HTL Hollabrunn
Anton Ehrenfriedstraße 10
2020 Hollabrunn

Approval
(Date / Signature)

Examiner/s

Head of Department / College