

Case 2 – Fog detection

Summary

The aim of case 2 is to detect decreased visibility from optical images. Danmarks Meteorologisk Institut (DMI) provided data which contains examples of foggy and non-foggy images from four locations in Denmark. The images are from traffic cameras, as it is of interest to test whether traffic cameras can be used to fog detection. Traffic cameras are scattered around Denmark and could thus be used to warn drivers of reduced visibility on the roads and potentially reduce accidents. Illustrations of the images are seen in Fig. 1-3.

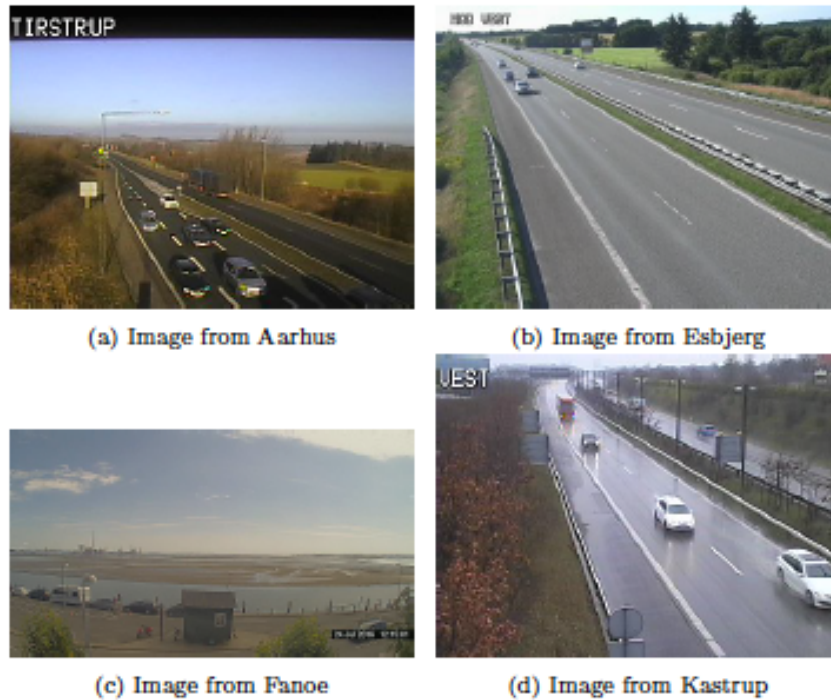


Fig. 1: Images from the four different cameras.



Fig. 2: Thirty example images labelled as the no fog class

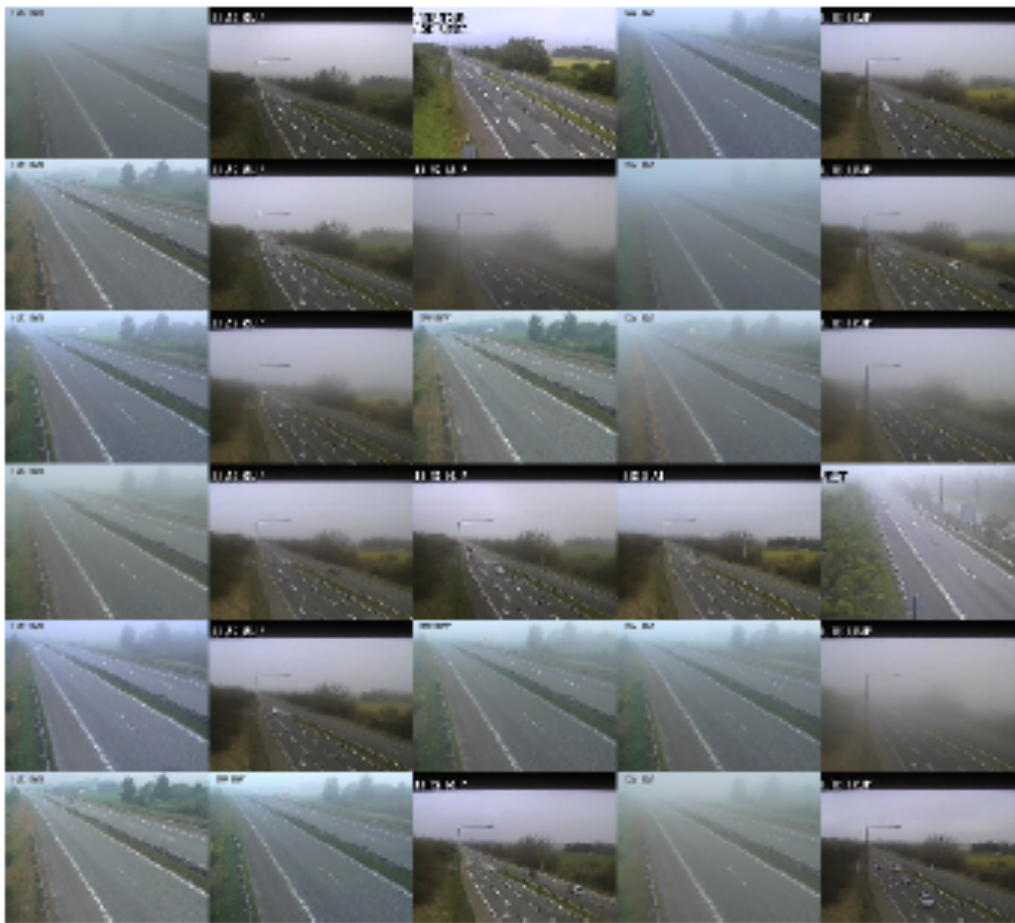


Fig. 3: Thirty example images labelled as the fog class

Case evaluation

The case is to make a proof of concept of fog detection. The case is fairly open, and you will be evaluated on your presentation of the solution as well as the technical foundation of your solution. A clear conclusion on whether fog detection is possible, its expected accuracy, and the expected limitations are important information. Furthermore, a concise description of the chosen approach/method including pros and cons of the method should be included in the poster. Below you will find a full evaluation form for posters.

Practical aspects:

- The case is handed in as a poster (digitally on CampusNet and printed for the last lecture).
- You should hand in the case as groups, and you may be up to 5 in a group.
- The poster should be presented at the last lecture in a poster session.
- The posters will be evaluated by all students based on two overall criteria (the presentation and the technical solution). Below is a guideline for the evaluation. Usually, each point is rated on a scale from 1-5 (poor, fair, average, good, excellent) and summed up to give a total score for each overall criterion of a poster. Think about these aspects when you evaluate a poster!
 - The organization and presentation:
 - Clearly identified topic and purpose

- Important information is readily available and easy to grasp
 - Figures and visual aids are appropriate
 - Informative and clear project summary
 - Layout (organized, effective, professional, captures interest)
 - Presentation is professional and confident
 - Delivery is engaged with audience
 - Clear voice and good pace
 - Response to questions
- The technical solution (content):
 - Clarity of content (purpose, method)
 - Quality of content (background, methodology, findings, etc.)
 - Originality and complexity of method
 - Quality of results (How well does the method solve the problem?)
 - The method supports the main points