

# Theory of Science (VIT)

## Deliverables 1-6

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# 1 Deliverable 1

**Summary:** Our project will focus on the area of evolutionary computations, which is a subfield of artificial intelligence based on biological evolution. Our project will more precisely focus on genetic algorithms. The purpose of our project will be to build a generic game playing system and compare different gene crossover techniques.

**Conferences:** IEEE Conference on Computational Intelligence in Games

**Acronym:** CIG 2014

**Link:** [www.cib2014.de](http://www.cib2014.de)

**Submission deadline:** 1<sup>st</sup> April, 2014

European Conference on Artificial Intelligence

**Acronym:** ECAI 2014

**Link:** [www.ecai2014.org](http://www.ecai2014.org)

**Submission deadline:** 1<sup>st</sup> March, 2014

**Workshops:** International Workshop on Game Theory and Economic Applications of the Game Theory Society

**Acronym:** IWGTS 2014

**Link:** [www.iwgts.fea.usp.br](http://www.iwgts.fea.usp.br)

**Submission deadline:** 15<sup>th</sup> March, 2014

Workshops on Semantic Computing for Computational Intelligence and Creativity

**Acronym:** SCCIC 2014

**Link:** [www.pa.icar.cnr.it/sccic14](http://www.pa.icar.cnr.it/sccic14)

**Submission deadline:** 15<sup>th</sup> March, 2014

## 2 Deliverable 2

### Automated Number Plate Identification

**Group:** Elias Khazen Obeid, Simon Buus Jensen, Niels Sonnich Poulsen,  
Kent Munthe Caspersen, Sebastian Wahl

#### Abstract

We describe an automated system to identify the number plates of Danish vehicles in images. Haar Features are weak classifiers used to capture characteristics of number plates. The best weak classifiers are boosted into a single strong classifier by the AdaBoost algorithm. The strong classifier is used for detecting the position of the number plate. We train a neural network to recognize the symbols of the number plate.

Overall the system needs improvement. As individual systems the subsystems mostly function satisfyingly. The results of the systems are as following: numberplate detectino gave a 16 % detection rate and 0.07 % false negatives. Corner detection found the right corners 80 % of the time. The segmentation system segmented 75 % of the images correct. Character recognition identified 95.83 % characters correct.

## 3 Deliverable 3

### Summary

Communicate key ideas. Use repetition: tell them what you will tell them. Tell them. Tell them what you told them. Don't be bogged down i details. Remind the audience, don't just assume that the know. Structure the talk. Separate talk into sections: introduction, the body, technicalities, and the conclusion. Don't over-run the schedule. During question time, always be polite and don't be afraid of saying "I don't know."

### My major weaknesses

1. Be concise and precise
2. Keep eye contact with audience
3. Control my voice and movement
4. Use the presentation method carefully
5. Be confident that the presentation is going well