Master Thesis Work:

Autonomous Driving Sensor Data Analysis using GANs

Zenuity Data Analysis

Background

ZENUITY is a pure software company with the mission of elevating people’s lives by making self-driving cars real. Being a joint venture between Volvo Cars and Autoliv from April 2017 we are a truly modern start-up with high energy, dedication and passion. Zenuity uses a disruptive, never-been-seen before, business model to produce world-leading competence in key technology areas. Delivering leading advanced driver assistance, highly automated driving, and cloud based Automotive software, we are dedicated to transforming the automotive industry and catapulting into the future of transportation. With 480 employees worldwide and with a unique growth rate we are recruiting top talent to our sites in Gothenburg, Detroit, Munich and Linköping.

Scope

In this thesis, the candidate will use Generative Adversial Networks (GANs) to model the sensor data, which is in the form of multi-dimensional time series. The main focus of the thesis is to implement GANs and its extensions and use them to construct a generative model to create artificial time series. The candidate is also welcome to look into other time series models such as LSTMs.

Project Steps

- Getting familiar with the sensors and available data at Zenuity
- Literature study in order to understand the state-of-the-art and propose a work plan
- Implementing and evaluating a GAN method and more advanced extensions
- Comparing the performance of the developed method with the existing methods at Zenuity
- Documentation and presentation of results at Zenuity

Desired qualification

- Knowledge and interest in Machine Learning, Deep Learning, Statistical Signal Processing, and Optimization

Application

We would like you to use the electronic link further down in this ad. Please apply with: CV, cover letter, grades, and references.

Duration

- Estimated start date: 2018-01-15
- Estimated end date: 2018-06-30

- The project is suited for one or two students (it amounts for 30 ECTS credits for one student or 60 ECTS credits for two students).

We want your application at the latest 2017-12-05.

Contact information

Apply with your CV, personal letter and grades to