



Master thesis (30 ECTS)

Working Title

Evaluation of Generative Adversarial Networks

Project objectives

Unlike other deep learning neural network models that are trained with a loss function until convergence, a GAN generator model is trained using a second model called a discriminator that learns to classify data as real or generated. Both the generator and discriminator model are trained together to maintain an equilibrium.

As such, there is no objective loss function used to train the GAN generator models and no way to objectively assess the progress of the training and the relative or absolute quality of the model from loss alone.

A suite of qualitative and quantitative techniques have been developed to assess the performance of a GAN model based on the quality and diversity of the generated synthetic data.

This thesis starts out with a literature research on available techniques for GAN performance assessment. Techniques suitable for generated geotechnical datasets should be chosen, applied to such datasets and their suitability investigated. Depending on how deep you are willing to dive into the topic, you could even enhance an existing technique or think about coming up with one on your own.

Student has enthusiasm for Start

machine learning applications for geotechnical purposes, geotechnical data, programming
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Project term (min. / max.)

6 / 9 months

Coop. with external institution

Possibility of remuneration

no

Contact person(s)

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