

## Master project (5 ECTS)

### Working title

Data-Driven Site Characterization – a comprehensive review of methods for digital subsurface modelling

### Project objectives

One purpose of Data-Driven Site Characterization is to produce a three-dimensional stratigraphic map of the subsurface volume below a project site and to estimate the governing engineering properties and soil/rock type at each spatial point based on site investigation data at the target site and relevant big indirect data (BID) from other sites, neighbouring or otherwise. The goal of the master project is to review possible methods for digital subsurface modelling (e.g., Bayesian modelling, generative machine learning, ...), highlighting pros and cons of the individual methods and distinguishing the best suited ones for geotechnical ground models of rock/soil.

### Student has enthusiasm for

Digitalisation, subsurface modelling, geotechnical data

### Requirements on student

Attention to detail, reliability, search skills

### Start (earliest / latest)

October 2024

### Project term (min. / max.)

3 / 6 weeks full-time

### Coop. with external institution

no

### Contact person

Paul Unterlaß  
unterlass@tugraz.at