The Digital Underground project is a collaboration between Singapore-ETH Centre and the Singapore Land Authority aimed at establishing a reliable map of subsurface utilities for planning and land administration. After the successful conclusion of the first phase of the project in June 2019, phase two of the project aims to develop the foundations of a thriving utility mapping ecosystem in Singapore. One of the deliverables of the project is a first-of-its-kind, consolidated map of subsurface utilities and a supporting geospatial data management platform. SEC is looking for talented and motivated professionals to design, develop, and deliver this prototype.

Software Developer - Geospatial Data Platform for Underground Utilities (100%)

Starting in January 2020 or at another date to be agreed upon, we are looking for a talented software developer to join our interdisciplinary team based at the Singapore ETH-Centre in Singapore.

Your key responsibilities will be to:
- As part of a small development team, develop a prototype geospatial data management platform for underground utilities, which includes functionality for quality control, modelling, integration, storage, and sharing of subsurface utility data.
- Integrate available off-the-shelf software modules and develop new software modules for the required functionalities of the platform and visualization of subsurface utility data.
- Set up and manage a DevOps infrastructure for deployment and testing of the platform.
- Contribute to the design and architecture of the platform.
- Collaborate with a small development team using an agile approach.
- Participate and contribute to the team’s weekly and monthly meetings and other interactions with key stakeholders from Singapore government agencies.

You can demonstrate that you:
- Are capable of developing web-based platforms (both frontend and backend), preferably in a language belonging to the JavaScript family.
- Have knowledge of and/or interest in spatial data infrastructures and geographic information systems. You have experience developing 3D geospatial data visualizations using off the shelf applications (e.g. ArcGIS Pro, CityEngine, Bentley OpenCities) as well as custom ones using available libraries (e.g. CesiumJS, Mapbox). Experience with extending existing GIS
applications with new modules and/or using scripting languages for geospatial data processing and analysis is a plus.

- Are proficient in at least one of the following programming languages: JavaScript, Python, Java, C#.
- Are a relentless, self-motivated, and independent learner who is not afraid to challenge the status quo.
- Are a proactive communicator who can commit to targets. You have at least a professional working proficiency in English.

We offer you:

- An opportunity to be part of the globally relevant development of a nation-wide 3D map of underground utilities.
- Meaningful work with real-world impact, with a strong engagement from and interaction with our main local government stakeholder.
- A modern and progressive work environment and competitive compensation commensurate with your skills and expertise.
- A diverse and interdisciplinary cast of colleagues, with plenty of opportunities to interact and collaborate with researchers from fields such as architecture, urban planning, social science, civil engineering, geomatics engineering, and computer science.

Work location: Singapore-ETH Centre (SEC)
1 Create Way, CREATE Tower (NUS University Town), Singapore 138602

Duration: 1 year and 6 months contract, full-time position, with a possibility to extend into the deployment phase of the platform.

We look forward to receiving your online application including the following documents: cover letter, curriculum vitae, portfolio (if any), and the name of two references, to vanson@arch.ethz.ch (Rob VAN SON). For further information about the Digital Underground project and/or Singapore-ETH centre please visit our websites: www.fcl.ethz.ch/research/research-to-application/digital-underground.html and www.sec.ethz.ch. Questions regarding the position should be directed to Rob VAN SON by email vanson@arch.ethz.ch.