

## Geotechnical Project Engineer

**Expertise**

Geotechnical Engineering, numerical modeling.

**Education**

Ph.D. in Civil Engineering (Geotechnical), 2023, *Ecole Centrale de Lyon, ITASCA consultants S.A.S, France.*

Master 2 in Hydraulics and Civil Engineering, 2020, *Grenoble INP – ense<sup>3</sup>, Université Grenoble Alpes, France.*

Diploma in Civil Engineering (Equivalent to Master Bac+5), 2020, *Lebanese University, Faculty of Engineering, Beirut, Lebanon.*

**Professional Experience**

2023 - Present	Itasca Consultants S.A.S., Lyon: Geotechnical Project Engineer.
2020 - 2023	Itasca Consultants S.A.S., Lyon: Civil Engineer   PhD student.
2020 (5 months)	INRAE, Aix-en-Provence, France: End of studies internship/project in geomechanical modeling.
2019 (2 months)	DAR Al Handasah, Beirut, Lebanon: Geotechnical Engineer Internship.
2018 (3 months)	EBCO Bitar, Beirut, Lebanon: Site Engineer Internship.

**Project Experience**

- **Civil Engineering:**

- 3D numerical modeling of tunnel intersections: short- and long-term stability study of the surrounding rock and reinforcements (bolts, steel arches, steel frames and concrete collars at intersections, concrete lining).
- Stability analysis during the construction of a drift plug in an underground storage facility.
- Lyon- Torino tunnel: 3D numerical study of the short- and long-term stability of the intersection between the base tunnel and a by-pass tunnel, as well as analysis of the concrete lining and bolts.
- Numerical analysis and study of a nuclear facility construction process which includes the modeling of the different stages namely excavation, backfilling, building construction, dewatering, watering and consolidation processes. The settlements under the buildings among others were studied at different stages of construction
- Analysis of slope stability and its reinforcement by an anchoring system.
- Analysis of soil-anchor interaction: numerical modeling of pull-out tests.
- Study of dynamic liquefaction of a tailings dam under the effect of a natural earthquake and mining-induced events.
- Analysis of the static and dynamic stability of a rockfill dam.

- ***Research and development :***

- Mechanical behavior of rockfill dams with dry-stone pitching: a mixed FDM-DEM approach.
- Shape Influence on the direct shear behavior of coarse granular materials.