

ShortTitle: Core-CT-Scan

Title: Analysis of ct-scan borehole geoscience datasets

Project leads and contact details:

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Suggested team size: 2-4

Logistics: Can work from anywhere, with periodic meetings in Berthoud 143

Project description: Images and quantitative measurements (e.g., clast size and organization, mineral abundance) of “core” (a cylinder of rock extracted from the subsurface using a drill rig) can tell geologists about the amount and quality of critical minerals (e.g., lithium for batteries), hydrocarbons, and water in the subsurface as well as information about past climate changes. CT-scanning is commonly used to analyze rock cores – CT stands for computed tomography, the same technique that’s used to identify bone fractures or blood clots in medical settings. Many CT-scan datasets of rock cores are available in the public domain (see overview of technology [here](#) and some data in the attached figure as well as [here](#)). However, while there is plenty of python-based tools to analyze CT scan datasets, none are specific for geoscience. Using python, you will help build capability to view, analyze, and export results from rock-core CT-scan datasets to aid in prediction of subsurface rock properties, like density, particle size, and fracture presence.

