System to store and fetch petabytes of geo data

1. Introduction

CollectiveCrunch is an AI leader in the forest industry. We collect climate, geo, and satellite data and crunch this information into AI models to better predict forest inventories, forest risks and carbon storage.

CollectiveCrunch provides Data-driven analytics for forest assets. CollectiveCrunch originated from the idea that we could make a difference by combining climate and geo data with state-of-the-art analytics to develop new insights.

This project aims to **Develop a cost-effective and scalable system to store and fetch petabytes of geo data (map layers, rasters, features) via an API in AWS.**

We don't want to dictate any specific technologies and more about that in the Technologies section.

2. Project goals

This project aims to Develop a cost-effective and scalable system to store and fetch petabytes of geo data (map layers, rasters, features) via an API in AWS.

We do not expect students to solve a difficult problem, entirely from scratch without adequate support, which could be a frustrating experience. We have all the skills and will to support the team.

3. Technologies

We don't want to dictate any specific technologies as it would limit your innovation. In addition to the topic, we need to set some high-level functional requirements in order to make the developed system work with our processes, but we can do that a bit later and we do not dictate the technology used.

CollectiveCrunch will advise students on technology options that could be used as a starting point, without limiting the students' freedom to come up with a radically different approach.

4. Requirements for the students

- We hope that students are interested in AI, machine learning, data, and we hope that students love to automate things and process massive amounts of data
- An open-minded person who is interested in forests and carbon is considered as benefit

5. Legal Issues

Intellectual Property Rights (IPR):

1. The client gets all IPRs to the results.

Confidentiality:

1. The client will share some confidential information with the students.

6. Client

- CollectiveCrunch originated from the idea that we could make a difference by combining climate and geo data with state-of-the-art analytics to develop new insights.
- We are experts on this domain, and we can support the team with technologies
- We are prepared to spend a lot of time guiding the team and we will nominate Technology advisor and internal Project Manager for this
- We are located at Keilaniemi (Keilaranta 6), and it is possible to arrange sessions on our premises

Client representative(s)

- Product Owner / Technical specialist
- Janne Keskitalo, Head of Data Engineering
- Keilaranta 6, Espoo

- Project Manager
- Olli Salminen, VP of Services
- Keilaranta 6, Espoo

- Contact: Olli Salminen, 0405500612, os@collectivecrunch.com

Preselected Student Team Members

- No prelisted students

7. Additional information

- CollectiveCrunch Project Manager has done this project with Aalto many times and results have been excellent, teams reached grade 4 or 5 multiple times.