P&G

4D Point Cloud Data Processing, Feature Extraction and Predictive Modeling
Non-Confidential

BACKGROUND

P&G has accumulated a vast amount of micro-CT scan data. The data has been processed into 4D point clouds (x, y, z, d) data consisting of 50K to 60K points per product/object.

NEED DESCRIPTION

Our primary objective is to develop robust and accurate predictive model that utilizes the 4D point cloud data to predict product properties for future products/objects. The model will enable us to enhance our product development, quality control, and overall decision-making process.

WHAT WE ARE LOOKING FOR

We are seeking consultations with experts who possess in-depth knowledge and experience in the following areas.
1. 3D point cloud data preprocessing
   o Expertise in preprocessing methods for 3D point cloud data, such as orientation alignment, denoising, and normalization.
2. Calculation of Geometric Features
   o Deep understanding of methods and techniques for calculating both local and global geometric features from 3D point clouds.
   o The ability to provide python codes that efficiently extract geometric features from point cloud data.
3. AI/Computer Vision Prediction:
   o Expertise in innovative computer vision techniques and AI algorithms to predict product properties using 4D point cloud data obtained from micro-CT scans.
   o We have some preliminary approaches and are looking for new and better approaches.

WHAT WE ARE NOT LOOKING FOR

- We are interested in techniques implemented using Python (no other software).
- We do not require individuals to perform data preprocessing, modeling, or programming task.

Please note that only **non-confidential** information describing the business & services model, current use and IP can be accepted for review.