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from sensor.exception import SensorException
from sensor.logger import logging
import os
import sys
from pandas import DataFrame
from sensor.entity.config_entity import DataIngestionConfig
from sensor.entity.artifact_entity import DataIngestionArtifact
from sensor.data_access.sensor_data import SensorData
from sklearn.model_selection import train_test_split

class DataIngestion:
    def __init__(self, data_ingestion_config: DataIngestionConfig):
        try:
            self.data_ingestion_config = data_ingestion_config

        except Exception as e:
            raise SensorException(e, sys)

    def export_data_into_feature_store(self) -> DataFrame:
        """
        Export mongo db collection record as data frame into
        feature
        """
        try:
            logging.info("Exporting data from mongodb to feature
            store")

            sensor_data = SensorData()

            dataframe =
            sensor_data.export_collection_as_dataframe(collection_name=self.d
            ata_ingestion_config.collection_name)

            feature_store_file_path =
            self.data_ingestion_config.feature_store_file_path

            #creating folder

            dir_path = os.path.dirname(feature_store_file_path)
            os.makedirs(dir_path, exist_ok=True)

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        dataframe.to_csv(feature_store_file_path,index=False,
header=True)
        return dataframe

    except Exception as e:
        raise SensorException(e,sys)

def split_data_as_train_test(self, dataframe: DataFrame) ->
None:
    try:
        train_set, test_set = train_test_split(
            dataframe,
test_size=self.data_ingestion_config.train_test_split_ratio
        )

        logging.info("Performed train test split on the
dataframe")

        logging.info(
            "Exited split_data_as_train_test method of
Data_Ingestion class"
        )

        dir_path =
os.path.dirname(self.data_ingestion_config.training_file_path)

        os.makedirs(dir_path, exist_ok=True)

        logging.info(f"Exporting train and test file path.")

        train_set.to_csv(
            self.data_ingestion_config.training_file_path,
index=False, header=True
        )

        test_set.to_csv(
            self.data_ingestion_config.testing_file_path,
index=False, header=True

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        )

        logging.info(f"Exported train and test file path.")
    except Exception as e:
        raise SensorData(e,sys)

def initiate_data_ingestion(self) -> DataIngestionArtifact:
    try:
        dataframe = self.export_data_into_feature_store()

        self.split_data_as_train_test(dataframe=dataframe)

        data_ingestion_artifact =
DataIngestionArtifact(trained_file_path=self.data_ingestion_config.training_file_path,
        test_file_path=self.data_ingestion_config.testing_file_path)

        return data_ingestion_artifact

    except Exception as e:
        raise SensorException(e,sys)

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