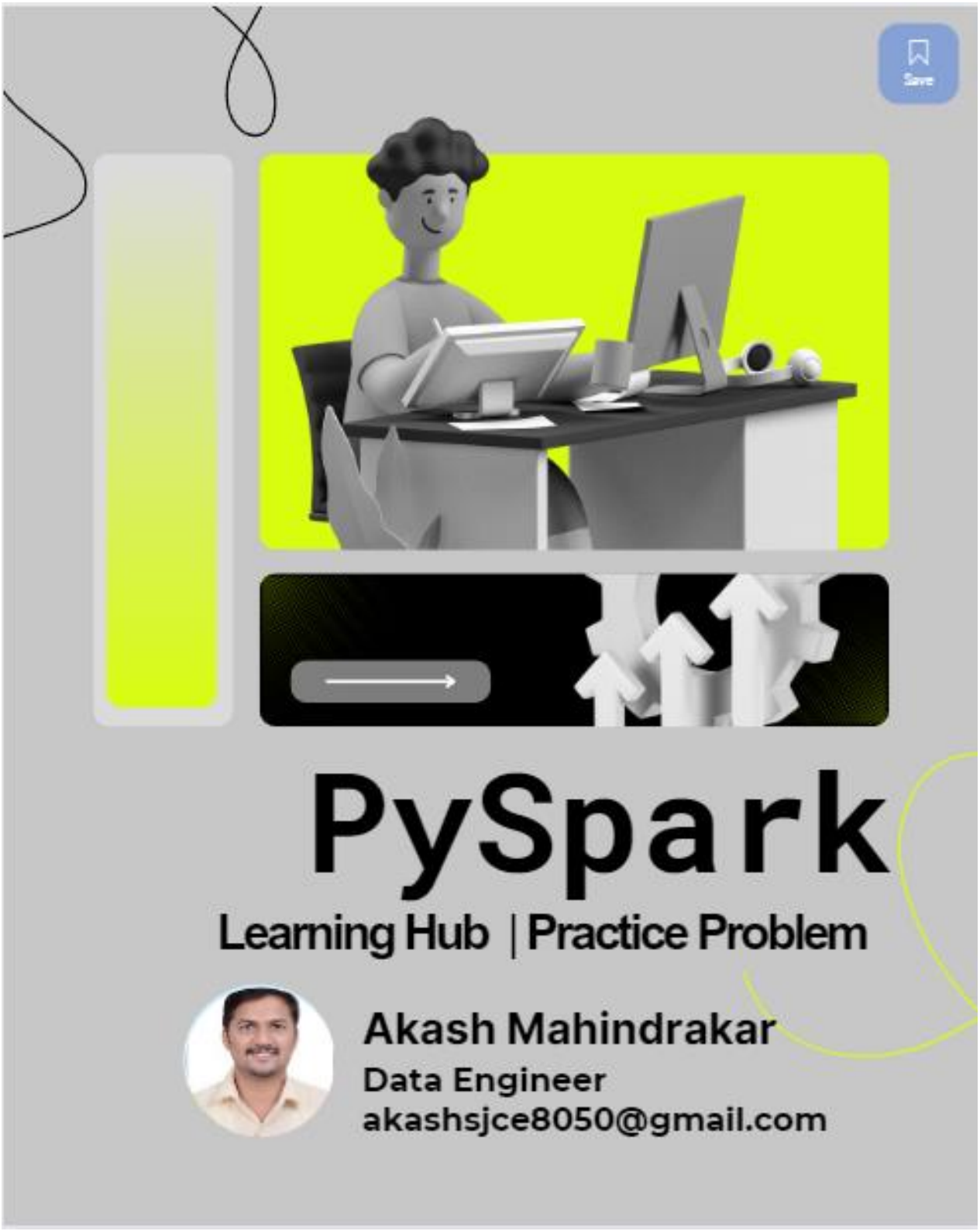
PYSPARK LEARNING HUB : DAY - 5



Step - 1 : Problem Statement

05_Duplicate Emails

Write a Pyspark program to report all the duplicate emails.
Note that it's guaranteed that the email field is not NULL.

Difficult Level : EASY

DataFrame:

```
# Define the schema for the "employees"
employees_schema = StructType([
        StructField("id", IntegerType(), True),
        StructField("name", StringType(), True),
        StructField("salary", IntegerType(), True),
        StructField("managerId", IntegerType(), True)
])

# Define data for the "employees"
employees_data = [
        (1, 'Joe', 70000, 3),
        (2, 'Henry', 80000, 4),
        (3, 'Sam', 60000, None),
        (4, 'Max', 90000, None)
]
```

Step - 2 : Identifying The Input Data And Expected Output

INPUT

INPUT	
ID	EMAIL
1	a@b.com
2	c@d.com
3	a@b.com

OUTPUT

OUTPUT
EMAIL
a@b.com

Step - 3 : Writing the pyspark code to solve

```
# Creating Spark Session

from pyspark.sql import SparkSession
from pyspark.sql.types import
StructType,StructField,IntegerType,StringType
from pyspark.sql.functions import when
from pyspark.sql import functions as F
from pyspark.sql.window import Window

#creating spark session
spark = SparkSession. \
builder. \
config('spark.shuffle.useOldFetchProtocol', 'true'). \
config('spark.ui.port','0'). \
config("spark.sql.warehouse.dir", "/user/itv008042/warehouse"). \
enableHiveSupport(). \
master('yarn'). \
getOrCreate()

# Define the schema for the "emails" table
emails_schema = StructType([
        StructField("id", IntegerType(), True),
        StructField("email", StringType(), True)
])

# Define data for the "emails" table
emails_data = [
        (1, 'a@b.com'),
        (2, 'c@d.com'),
        (3, 'a@b.com')
]
```

```
# Create a PySpark DataFrame
df=spark.createDataFrame(emails_data,emails_schema)
df.show()


df_group=df.groupby("email").count()
df_group.filter(df_group["count"] > 1).show()
```

```
+-------+-----+
|  email|count|
+-------+-----+
|a@b.com|    2|
+-------+-----+
```

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