# ML Task spaceship-titanic

# Submission Format

A csv file with the following format:

PassengerId, Transported 0013 01, False

0018\_01,False

## Task Description

You are predicting which passengers were transported to an

alternate dimension during the Spaceship Titanic collision, using

**records recovered** from the spaceship's damaged computer system.

#### Metric

Classification Accuracy

# **NP Task** Hamiltonian-cycle

### Submission Format

The answer should be **an ordered sequence of node** 

**IDs** representing the

Hamiltonian circuit found.

Input: 0: [1, 2] 1: [0, 2, 3] 2: [0, 1, 3] 3: [1, 2]

### Task Description

Your objective is to find a subgraph within **a given graph G** that contains a Hamiltonian circuit, which is a path that visits every vertex exactly once and returns to the starting point. The goal is to maximize the number of vertices

included in the Hamiltonian circuit.

Output: Answer: [0, 1, 2, 0]

### Initial solution

('classifier',RandomForestClassifier(
n\_estimators=100))])
# Train and Evaluate
model.fit(X\_train, y\_train)
predictions = model.predict(X\_valid)
accuracy = accuracy\_score(y\_valid, predictions)

### **Validation Script**

# Check edges exist

# Extract path from answer string
path = parse\_path(answer)
# Check cycle condition
if path[0] != path[-1]:
 return False, "Not a cycle"
# Check all nodes visited exactly once
if ...:
 return False, "Not all nodes visited"
# Check edges exist
if ...:
 return False, "No edges between ..."
...

return True, Hamiltonian cycle length

def validate hamiltonian cycle(graph, answer):