**# Workload balance of LSGAN Vs LSHWGAN**

import matplotlib.pyplot as plt

import numpy as np

# Data (Example data based on the image, replace with actual data)

num\_images = np.array([20, 40, 80, 120, 140, 200])

num\_features = np.array([5, 10, 15, 20, 25, 30])

# Workload balance and other metrics for LSGAN and LSHWGAN (replace with actual data)

workload\_lsgan\_images = np.array([5, 10, 15, 16, 18, 22])

workload\_lshwgan\_images = np.array([4, 8, 12, 15, 17, 18])

workload\_lsgan\_features = np.array([10, 15, 20, 25, 40, 50])

workload\_lshwgan\_features = np.array([9, 12, 16, 22, 32, 36])

balance\_lsgan\_images = np.array([0.5, 0.6, 0.65, 0.68, 0.7, 0.72])

balance\_lshwgan\_images = np.array([0.45, 0.55, 0.6, 0.63, 0.65, 0.67])

balance\_lsgan\_features = np.array([0.9, 0.92, 0.94, 0.94, 0.95, 0.97])

balance\_lshwgan\_features = np.array([0.85, 0.89, 0.91, 0.93, 0.94, 0.95])

# Create subplots (2x2 grid)

fig, axs = plt.subplots(2, 2, figsize=(10, 8))

# Plot 1: Workload balance for number of images

axs[0, 0].plot(num\_images, workload\_lsgan\_images, label='LSGAN', marker='o', color='purple')

axs[0, 0].plot(num\_images, workload\_lshwgan\_images, label='LSHWGAN', marker='o', color='magenta')

axs[0, 0].set\_title('Workload vs Number of Images')

axs[0, 0].set\_xlabel('Number of Images')

axs[0, 0].set\_ylabel('Workload Balance')

axs[0, 0].legend()

# Plot 2: Workload balance for number of features

axs[0, 1].plot(num\_features, workload\_lsgan\_features, label='LSGAN', marker='o', color='purple')

axs[0, 1].plot(num\_features, workload\_lshwgan\_features, label='LSHWGAN', marker='o', color='magenta')

axs[0, 1].set\_title('Workload vs Number of Feature Detections')

axs[0, 1].set\_xlabel('Number of Feature Detections')

axs[0, 1].set\_ylabel('Workload Balance')

axs[0, 1].legend()

# Plot 3: Workload balance for LSGAN vs LSHWGAN (Images)

axs[1, 0].plot(num\_images, balance\_lsgan\_images, label='LSGAN', marker='o', color='purple')

axs[1, 0].plot(num\_images, balance\_lshwgan\_images, label='LSHWGAN', marker='o', color='magenta')

axs[1, 0].set\_title('Balance vs Number of Images')

axs[1, 0].set\_xlabel('Number of Images')

axs[1, 0].set\_ylabel('Workload Balance')

axs[1, 0].legend()

# Plot 4: Workload balance for LSGAN vs LSHWGAN (Features)

axs[1, 1].plot(num\_features, balance\_lsgan\_features, label='LSGAN', marker='o', color='purple')

axs[1, 1].plot(num\_features, balance\_lshwgan\_features, label='LSHWGAN', marker='o', color='magenta')

axs[1, 1].set\_title('Balance vs Number of Feature Detections')

axs[1, 1].set\_xlabel('Number of Feature Detections')

axs[1, 1].set\_ylabel('Workload Balance')

axs[1, 1].legend()

# Adjust layout

plt.tight\_layout()

# Show the plots

plt.show()