

```

import matplotlib.pyplot as plt
import numpy as np
from sklearn.metrics import roc_curve

y_true = np.asarray([[0, 0, 1], [0, 1, 0], [1, 0, 0], [0, 0, 1], [1, 0, 0], [0, 1,
0], [0, 1, 0], [0, 1, 0], [0, 0, 1], [0, 1, 0]])
y_pred = np.asarray([[0.1, 0.2, 0.7], [0.1, 0.6, 0.3], [0.5, 0.2, 0.3], [0.1, 0.1,
0.8], [0.4, 0.2, 0.4], [0.6, 0.3, 0.1], [0.4, 0.2, 0.4], [0.4, 0.1, 0.5], [0.1, 0
.1, 0.8], [0.1, 0.8, 0.1]])

plt.figure(figsize=(16, 16))
fprs = []
tprs = []

for i in range(3):
    fpr, tpr, _ = roc_curve(y_true[:, i], y_pred[:, i])
    fprs.append(fpr)
    tprs.append(tpr)
    plt.subplot(2, 2, i + 1)
    plt.plot(fpr, tpr)
    plt.plot(fpr, tpr, 'ro')
    title = 'RocCurve' + str(i + 1)
    plt.title(title)
    plt.xlabel('FPR')
    plt.ylabel('TPR')

# Calculate micro average ROC curve
all_fpr = np.unique(np.concatenate([fprs[i] for i in range(3)]))
mean_tpr = np.zeros_like(all_fpr)
for i in range(3):
    mean_tpr += np.interp(all_fpr, fprs[i], tprs[i])
mean_tpr /= 3
fpr_micro = all_fpr
tpr_micro = mean_tpr

# Plot micro average ROC curve
plt.subplot(2, 2, 4)
plt.plot(fpr_micro, tpr_micro)
plt.plot(fpr_micro, tpr_micro, 'ro')
plt.title('Micro Average ROC Curve')
plt.xlabel('FPR')
plt.ylabel('TPR')

plt.suptitle('All ROC Curves')
plt.show()

```