import numpy as np

import matplotlib.pyplot as plt

from my\_function import calculate\_spectral\_variability, plot\_violin

# Charger les données et les caractéristiques

samples = 'results/data/sample/Sample\_BD\_foret\_T31TCJ.shp'

ndvi\_images = 'results/data/img\_pretraitees/Serie\_temp\_S2\_ndvi.tif'

# Variabilité spectrale

variability = calculate\_spectral\_variability(samples, ndvi\_images)

# Diagramme en bâton

plt.bar(variability['class'], variability['mean\_distance'])

plt.xlabel('Classe')

plt.ylabel('Distance moyenne au centroïde')

plt.savefig('results/figure/diag\_baton\_dist\_centroide\_classe.png')

# Violin plot

plot\_violin(variability, 'results/figure/violin\_plot\_dist\_centroide\_by\_poly\_by\_class.png')