# Sample Diagnostic and Treatment Suggestion System with Plotting

import matplotlib.pyplot as plt

def diagnose(symptoms):

# A simple rule-based diagnostic system

diagnosis = []

if 'fever' in symptoms and 'cough' in symptoms:

diagnosis.append('Flu')

if 'chest pain' in symptoms and 'shortness of breath' in symptoms:

diagnosis.append('Heart Condition')

if 'headache' in symptoms and 'blurred vision' in symptoms:

diagnosis.append('Migraine')

return diagnosis

def suggest\_treatment(diagnosis):

# Treatment suggestions based on diagnosis

treatments = {

'Flu': 'Rest, hydration, and antiviral medication',

'Heart Condition': 'Immediate medical attention and cardiac tests',

'Migraine': 'Pain relief medication and rest in a dark room'

}

return [treatments.get(d, 'Consult a doctor') for d in diagnosis]

# Example usage

symptoms = ['fever', 'cough']

diagnosis = diagnose(symptoms)

treatment = suggest\_treatment(diagnosis)

print("Symptoms:", symptoms)

print("Diagnosis:", diagnosis)

print("Suggested Treatment:", treatment)

# Plotting diagnosis and treatment

plt.figure(figsize=(10, 5))

plt.bar(diagnosis, [1]\*len(diagnosis), color='lightblue')

plt.title('Diagnosis and Suggested Treatment')

plt.xlabel('Diagnosis')

plt.ylabel('Detected (1 = True)')

for i, txt in enumerate(treatment):

plt.text(i, 1.05, txt, ha='center', va='bottom', fontsize=9, wrap=True)

plt.ylim(0, 2)

plt.tight\_layout()

plt.show()

