import matplotlib.pyplot as plt

from matplotlib.patches import FancyBboxPatch, Circle

def add\_box(ax, text, xy, boxstyle="round,pad=0.3", color="#F4B400"):

    box = FancyBboxPatch(xy, 3.5, 0.8, boxstyle=boxstyle, linewidth=1,

                         edgecolor="black", facecolor=color)

    ax.add\_patch(box)

    ax.text(xy[0]+1.75, xy[1]+0.4, text, ha="center", va="center", fontsize=10, color="black")

def add\_circle(ax, text, center, color="#00264D"):

    circ = Circle(center, 0.4, color=color)

    ax.add\_patch(circ)

    ax.text(center[0], center[1], text, ha="center", va="center", fontsize=10, color="white")

def draw\_flowchart():

    fig, ax = plt.subplots(figsize=(10, 6))

    ax.set\_xlim(0, 10)

    ax.set\_ylim(0, 8)

    ax.axis("off")

    # Main process circle

    process\_circle = Circle((2, 4), 1.2, color="#F4B400")

    ax.add\_patch(process\_circle)

    ax.text(2, 4, "Process\nDiagram", ha="center", va="center", fontsize=12, weight="bold")

    steps = [

        ("01", "INPUT NEWS CONTENT"),

        ("02", "TEXT PRE PROCESSING"),

        ("03", "FEATURE EXTRACTION"),

        ("04", "NLP ANALYSIS"),

        ("05", "MODEL PREDICTION"),

    ]

    y\_positions = [6.2, 5, 3.5, 2, 0.7]

    for i, ((num, label), y) in enumerate(zip(steps, y\_positions)):

        add\_circle(ax, num, (4.5, y))

        add\_box(ax, label, (5.2, y - 0.4))

        # Connecting line

        ax.plot([2.9, 4.1], [4, y], color="black", linewidth=1, linestyle='--')

    plt.show()

draw\_flowchart()