CODE:

```
import cv2

import numpy as np


# Load the image

image = cv2.imread(r"C:\Users\harik\Downloads\CV LAB\MOUNTAIN.jpeg")  # Replace with your image path

h, w = image.shape[:2]


# Set rotation angle (270° clockwise = -90° or 90° counter-clockwise)

alpha = np.deg2rad(-90)  # Convert degrees to radians

d = 500  # Distance from the viewer (controls perspective depth)


# Projection matrix to center image at origin

A1 = np.array([[1, 0, -w/2],

            [0, 1, -h/2],

            [0, 0,    0],

            [0, 0,    1]])


# Y-axis rotation matrix for -90 degrees

R = np.array([[ np.cos(alpha), 0, -np.sin(alpha), 0],

            [          0, 1,           0, 0],

            [ np.sin(alpha), 0,  np.cos(alpha), 0],

            [          0, 0,           0, 1]])


# Translate the image back from origin

T = np.array([[1, 0, 0, w/2],

            [0, 1, 0, h/2],

            [0, 0, 1,    0],

            [0, 0, 0,    1]])
```

```
# Final transformation matrix
M = T @ R @ A1
M = M[:3, :]  # Extract the 3x4 part for warpPerspective

# Apply perspective warp
warped = cv2.warpPerspective(image, M, (w, h))

# Show results
cv2.imshow("270-degree Y-axis Clockwise Rotation (3D Simulated)", warped)
cv2.waitKey(0)
cv2.destroyAllWindows()
```

OUTPUT: