HW1.9. Find the coordinates of a point in a different frame

The pose of frame 5 in the coordinates of frame 3 is

$$T_{35} = \begin{bmatrix} -0.05886304 & -0.10773645 & 0.99243539 & -0. \\ 0.82160127 & 0.55945426 & 0.10946362 & 0.1 \\ -0.56701542 & 0.82182954 & 0.05558523 & 0.9 \\ 0.00000000 & 0.00000000 & 0.00000000 & 1.0 \end{bmatrix}$$

A point p in the coordinates of frame 3 is:

$$p_3 = \begin{bmatrix} 0.62647602 \\ -0.95642123 \\ -0.34947562 \end{bmatrix}$$

Python

```
import numpy as np

T_35 = np.array([[-0.05886304, -0.10773645,
0.99243539, -0.94629847], [0.82160127,
0.55945426, 0.10946362, 0.19671972],
[-0.56701542, 0.82182954, 0.05558523,
0.90496210], [0.00000000, 0.00000000,
0.00000000, 1.00000000]])
p_3 = np.array([[0.62647602], [-0.95642123],
[-0.34947562]])
```

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Find p in the coordinates of frame 5:

$p_5 =$ matrix (rtol=0.01, atol=1e-08)

Save & Grade *Single attempt* | Save only | *Additional attempts available with new variants*

Homework 1

Assessment overview

Total points: 30/30

Score: 100%

Question

Value: 2

History: 1 1 2 3 1 2 3 1 1

Awarded points: 5/5

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