

DATA.ML.300 Computer Vision Exercise 1

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1

Here is my solution to task 1.

a) Homogeneous coordinate form

$$x_1 = (-1, 0, 1)$$

$$x_2 = (2, -1, 1)$$

$$x_3 = (0, 1, 1)$$

$$x_4 = (2, 0, 1)$$

b) The two lines are as follows

$$\text{Line } l_1 = x_1 \times x_2 = (-1, 0, 1) \times (2, -1, 1) = (1, 3, 1)^\top$$

$$\text{Line } l_2 = x_3 \times x_4 = (0, 1, 1) \times (2, 0, 1) = (1, 2, -2)^\top$$

c) The intersection of l_1 and l_2

$$x = l_1 \times l_2 = (1, 3, 1)^\top \times (1, 2, -2)^\top = (-8, 3, -1)$$