

**Introduction to Computer Vision**

**Coursework**

**Submission 1**

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**Question 1(a):**



**Rotated images:**

θ = -50 deg

θ = 60 deg

θ = 30 deg

θ = 120 deg

**Skewed images:**

θ = 10 deg

θ = 40 deg

θ = 60 deg

**Your comments:**

**Question 1(b):**

θ2=50 and θ1=20 clockwise

θ1=20 clockwise and θ2=50

**Your comments:**

**Question 2(a)**:

**Designed kernel:**

**A box blur**

Averaged image



Original image

**Your comments:**

**Question 2(b):**

**Filtered image with kernel A**

**Filtered image with kernel B**

**Your comments:**

**Question 2(c):**

A followed by A

**A followed by B**

**B followed by A:**

**Your comments:**

**Question 2(d):**

**Extended kernels of A and B (5x5):**

**Results obtained by applying 5x5 kernel:**

**B followed by A**

**A followed by B**

**A followed by A**

**Extended kernels of A and B (7x7):**

**Results obtained by applying 7x7 kernel:**

**A followed by A**

**B followed by A**

**A followed by B**

**Your comments:**

I identified kernel A as a gaussian blur so my 5x5 kernel is what I remember a 5x5 gaussian blur to be.

**Question 3(a):**

**Two non-consecutive frames:**

Image 1

Image 2

**Corresponding colour histograms:**

Histogram 2

Histogram 1

**Your comments:**

**Question 3(b):**

**Example 1:**

It

It+1

**Histograms:**

Histogram of It

Histogram of It+1

Intersection result

**Example 2:**

It+1

It

**Histograms:**

Histogram of It

Histogram of It+1

Intersection result

**Your Comments:**

**Question 3(c):**

**Comments:**