

PGT Exam Performance Feedback

2018/2019 Semester 2

COMP61342 Computer Vision

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Comments Question 1
Very well answered by the majority of the students.

There were few problems with question 1.(c):

- Some students failed to realise that Harris corner detector is NOT a linear filter
- Some students did not answer the second part of the question regarding noisy images

Question 2.

Part a) Marks lost for not enough detail, or forgetting some points. For example, many people neglected to mention dimensional reduction in some form. The HOW it was done was pretty well answered though, and the WHY of the second part was less well answered.

Part b) Although many people described how to incorporate a SSM into an ASM, very few remembered that you FIRST had to align the shapes. Many people remembered the main details of the search, and strongest edges approach. There were some very good answers, who talked about profile models and even the whole Active Appearance Model. But again, marks for lost for missing steps or not enough PRECISE detail. A sketched equation or a sketched diagram was quicker and easier to write, and made it clear that you had remembered a key point, compared to people who attempted to write it out in words using their own style

Part c) Most people managed some sort of answer to this part. Although problems were better remembered than solutions!

Overall, as well as not enough detail, many people did not seem to be clear about how the different methods/models were distinguished (ACM/SSM/ASM/AAM). Based on the model-based vision lectures, PCA SHOULD have been an obvious key step, since it was then used again and again in those lectures. Surprisingly few people tried to describe eigenfaces, despite that being part of the practical and essay on face detection and recognition, which again indicates that links were not always being made between different areas. But everyone should really have realised that describing PCA IN DETAIL was probably going to occur in some form in ANY question on model-based vision. So, people who learnt only the 'short' or non-technical version should not be surprised if they failed to gain full marks for that part.

Question 3

3.(a) and 3(b) Good.

3.(c) Good with some students gaining full marks.

Marks were lost in cases where the students did not explain HOW one can find corresponding points in the images.

Question 4

parts a) and b)

Some people were obviously so scared by this diagram or the mathematical notation, that they didn't even attempt to answer. The diagram was supposed to help you though, and I was NOT asking people to identify the meaning of parts of the diagram. Of those who did answer, a large number remembered the key points. For part b), the main mistake was people who confused applications of registration with individual methods of registration. But most people could remember a few methods, and diagrams from the lectures seem to have helped. Main reason for loss of marks, as always, was not providing enough precise technical DETAIL where it was required/asked for.

4. (c) Some students did not realise that the k-means algorithm will NOT cluster correctly the data even if you use $k=3$.

4. (d) Almost all students stated that EM will be able to cluster the data set into correct clusters however many failed to explain the correct reason for this.
