IDAPI Coursework Part 4 - Principal Component Analysis

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1   Results

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Coursework Four Results by sg3510 and mm5110

Mean vector Hepatitis C:
 1.164  3.916  0.448  5.679  4.865  3.778  4.127  3.604  0.217


Covariance matrix of the Hepatitis C:
 5.880  0.245 -0.004 -0.284 -0.346 -0.417 -0.481 -0.267 -0.067
 0.245  7.572  0.073 -0.358 -0.346  0.257  2.273  0.946 -0.032
-0.004  0.073  0.247 -0.116 -0.039 -0.003  0.100  0.066 -0.005
-0.284 -0.358 -0.116 16.960  7.969  4.443 -1.036 -0.306  0.047
-0.346 -0.346 -0.039  7.969  8.361  4.921 -0.763 -0.752 -0.001
-0.417  0.257 -0.003  4.443  4.921  6.683 -0.087 -0.376 -0.141
-0.481  2.273  0.100 -1.036 -0.763 -0.087 20.583  1.122  0.014
-0.267  0.946  0.066 -0.306 -0.752 -0.376  1.122  4.317  0.119
-0.067 -0.032 -0.005  0.047 -0.001 -0.141  0.014  0.119  0.170


Component magnitudes:
1206.254 -1590.133 -248.136 -821.249 246.009 -771.900 963.633 376.967 161.599 -533.276
```
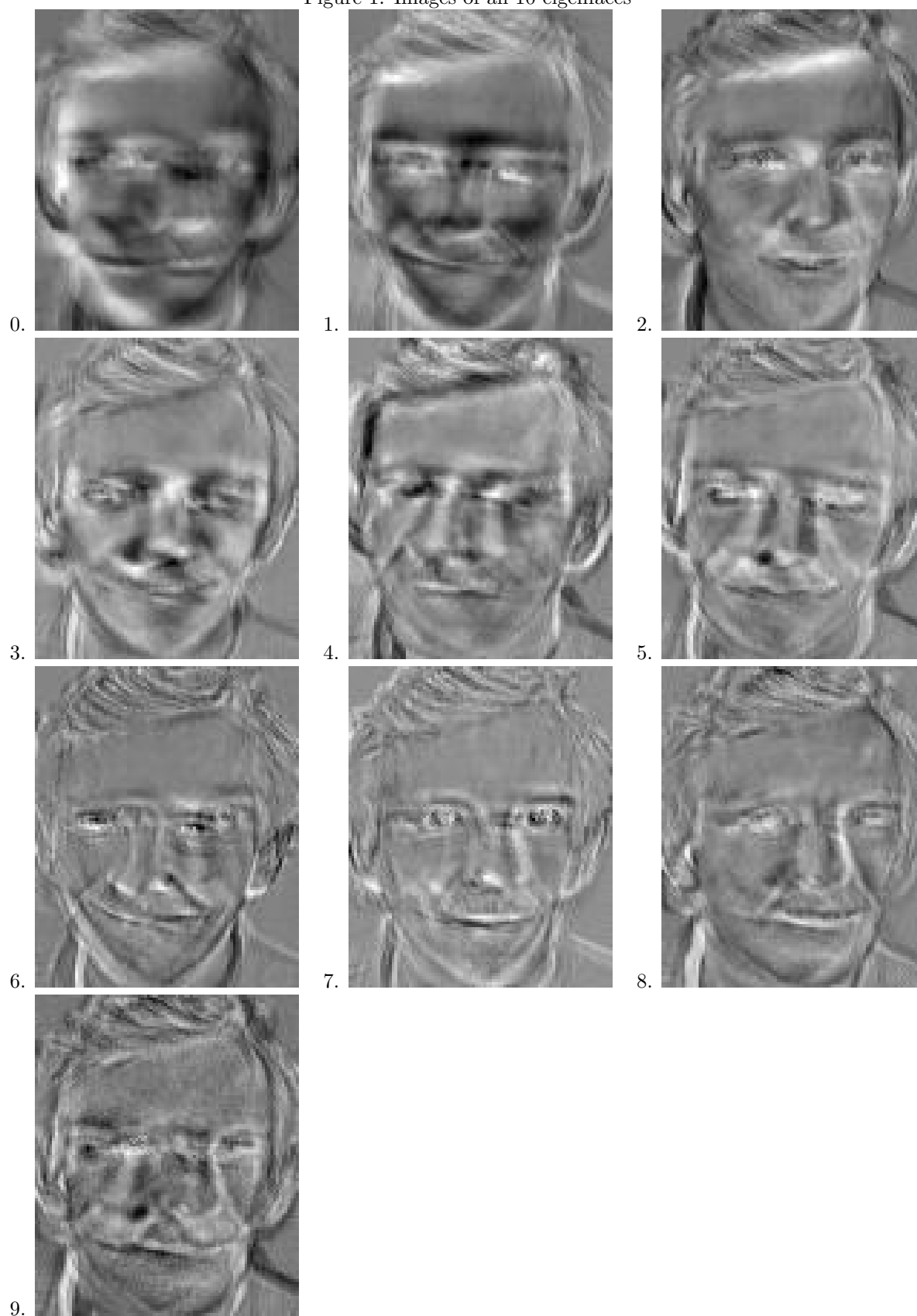
2 Eigenface images from 4.3

Figure 1: Images of all 10 eigenfaces

0.

1.

2.

3.

4.

5.

6.

7.

8.

9.

3 Partial Reconstructions from 4.4

Figure 2: Images of all 10 partial reconstructions, including mean

0.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

4 Partial Reconstructions from 4.6

Figure 3: Images of all 6 partial reconstructions, including mean

0.

1.

2.

3.

4.

5.

6.