# Errata Week 8

## Video Lecture Errata

In the video 'Motivation II: Visualization', around 2:45, prof. Ng says $\mathbb{R}^2$, but writes $\mathbb{R}$. The latter is incorrect and should be $\mathbb{R}^2$.

In the video 'Motivation II: Visualization', the quiz at 5:00 has a typo where the reduced data set should be go up to $z^{(n)}$ rather than $z^{(m)}$.

In the video "Principal Component Analysis Algorithm", around 1:00 the slide should read "Replace each $x_j^{(i)}$ with $x_j^{(i)} - \mu_j$." (The second x is missing the superscript (i).)

In the video "Principal Component Analysis Algorithm", the formula shown at around 5:00 incorrectly shows summation from 1 to n. The correct summation (shown later in the video) is from 1 to m. In the matrix U shown at around 9:00 incorrectly shows superscript of last column-vector "u" as m, the correct superscript is n.

In the video "Reconstruction from Compressed Representation", the quiz refers to a formula which is defined in the next video, "Choosing the Number of Principal Components"

In the video "Choosing the number of principal components" at 8:45, the summation in the denominator should be from 1 to n (not 1 to m).

In the in-video quiz in "Data Compression" at 9:47 the correct answer contains k≤n but it should be k<n.

## Programming Exercise Errata

In the ex7.pdf file, Section 2.2 says "You task is to complete the code" but it should be "Your task"

In the ex7.pdf file, Section 2.4.1 should say that each column (not row) vector of U represents a principal component.

In the ex7.pdf file, Section 2.4.2 there is a typo: "predict the identitfy of the person" (the 'f' is unneeded).

In the ex7_pca.m file at line 126, the fprintf string says '(this mght take a minute or two ...)'. The 'mght' should be 'might'.

In the ex7 projectData.m file, update the Instructions to read:

```
1    %    projection_k = x' * U(:, k);
2
```

In the function script "pca.m", the 3rd line should read "[U, S] = pca(X)" not "[U, S, X] = pca(X)"