**Question 1 - multiple choice, shuffle**

word2vec is a software which:

\*A: represents words as points in a vector space

Feedback: C​orrect!

B: represents words as a binary vector

Feedback: word2vec represents a word as a vector, but this is not necessarily a binary vector.

C: represents words as a vectograph

Feedback: w​ord2vec represents words as points in a vector space. We can visualise this using a 2D or 3D projection, as was shown schematically in the video. However, this plot is not called a vectograph (which is actually a plotting method used to produce 3D films).

**Question 2 - checkbox, shuffle, partial credit**

An algorithm algorithm that treats some section of society unfairly might be made more just by:

\*A: re-weight the training data

Feedback: Correct! We can give greater weight to more recent observations or to groups that are under-represented in the training data as compared to the population.

\*B: re-label the training data

Feedback: C​orrect! If a process has historically been unfair to one group, we might want to retrospectively re-label past cases according to current standards.

\*C: update the training data

Feedback: C​orrect! If a process has historically been unfair to one group and this is no longer the case, we may want to switch to using only more recent training examples.

D: apply a-priori bias corrections

Feedback: Bias corrections provide a post-hoc (after model fitting) method to account for biases in a fitted model, rather than a-priori method (before any data are observed).

**Question 3 - checkbox, shuffle, partial credit**

Which of the following are potential effects of a post-hoc bias correction method?

\*A: can reduce model accuracy

Feedback: C​orrect! Adding an additional model constraint to ensure fairness between groups can reduce the overall accuracy of the model, since a comprimise must be made between the two objectives.

B: can increase model accuracy

Feedback: Altering a model to include a fairness constraint will not necessarily decrease model accuracy but also will not increase model accuracy.

\*C: quantifies the difference in treatment between groups

Feedback: C​orrect! The size of the bias adjustment can indicate the extent to which the groups were historically being treated differently.

**Question 4 - multiple choice, shuffle**

A​ moratorium is on a data product is:

A: A voluntary agreement to stop using a technology or method permanently

Feedback: This description better describes *sunsetting*.

B: A compulsory agreement to stop using a technology or method permanently

Feedback: This description better describes *a ban*.

\*C: A voluntary agreement to stop using a technology or method temporarily

Feedback: C​orrect! A moratorium is a temporary, voluntary agreement to stop using a technology or methodology until the issues it poses can be resolved.

D: A compulsory agreement to stop using a technology or method temporarily

Feedback: While a moratorium is temporary, it is a voluntary agreement.