

Click here to compare polynomial transforms with feature crosses

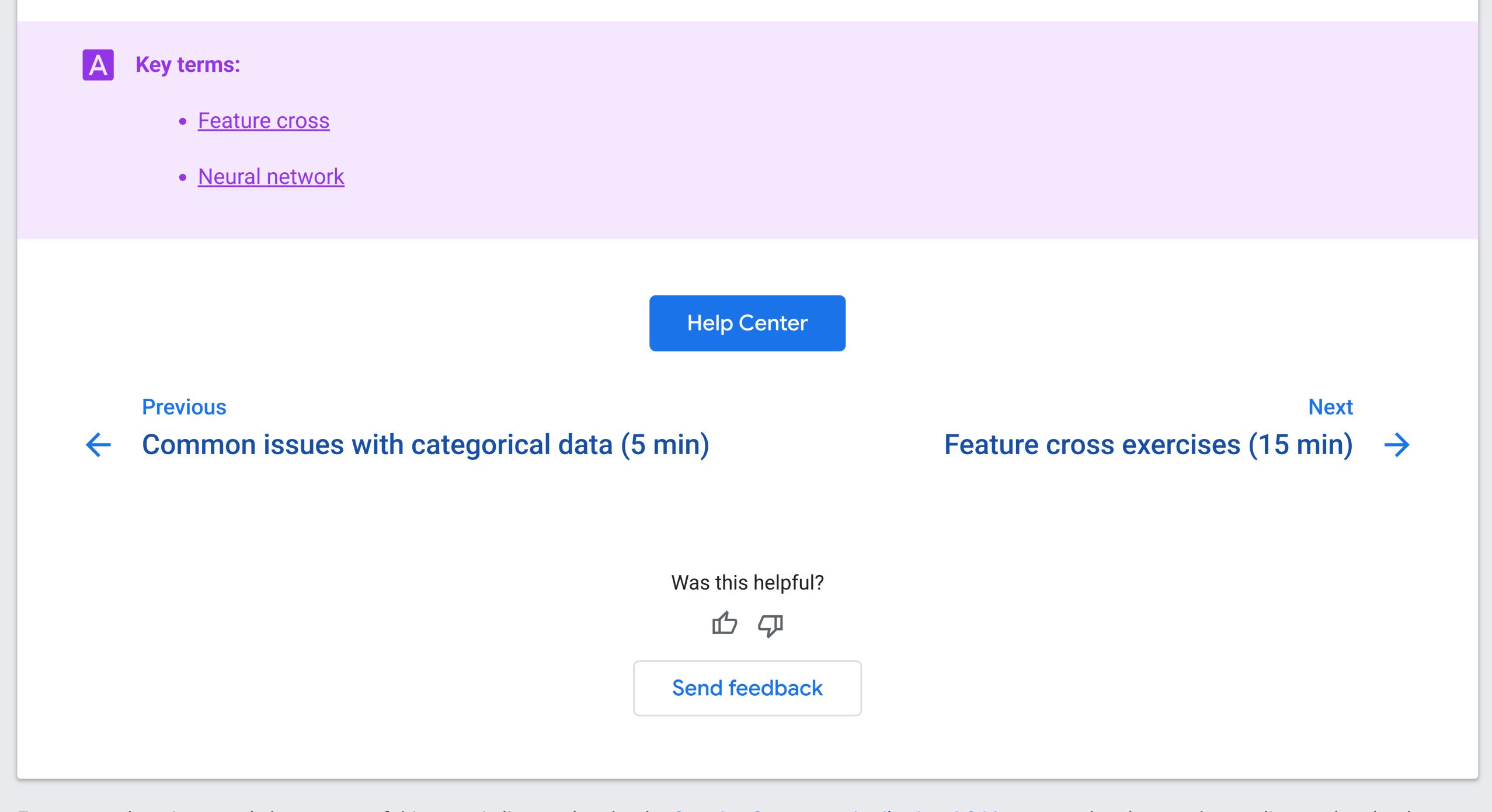
Feature crosses are somewhat analogous to Polynomial transforms. Both combine multiple features into a new synthetic feature that the model can train on to learn nonlinearities. Polynomial transforms typically combine numerical data, while feature crosses combine categorical data.

When to use feature crosses

min)

Domain knowledge can suggest a useful combination of features to cross. Without that domain knowledge, it can be difficult to determine effective feature crosses or polynomial transforms by hand. It's often possible, if computationally expensive, to use neural networks to automatically find and apply useful feature combinations during training.

Be careful—crossing two sparse features produces an even sparser new feature than the two original features. For example, if feature A is a 100-element sparse feature and feature B is a 200-element sparse feature, a feature cross of A and B yields a 20,000-element sparse feature.



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