

# Category Encoders: a scikit-learn contrib package of transformers for encoding categorical data

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## Software

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## Summary

Category\_encoders is a scikit-learn-contrib module of transformers for encoding categorical data. As a scikit-learn-contrib module, category\_encoders is fully compatible with the scikit-learn API (Buitinck et al. 2013). It also uses heavily the tools provided by scikit-learn (Pedregosa et al. 2011) itself, scipy (Jones et al. 2001–2001--), pandas (McKinney 2010), and statsmodels (Seabold and Perktold 2010).

It includes a number of pre-existing encoders that are commonly used, notably Ordinal, Hashing and OneHot encoders (“R Library Contrast Coding Systems for Categorical Variables,” n.d.) (Carey 2003) (Weinberger et al. 2009). There are also some less frequently used encoders including Backward Difference, Helmert, Polynomial and Sum encoding (“R Library Contrast Coding Systems for Categorical Variables,” n.d.) (Carey 2003). Finally there are experimental encoders: LeaveOneOut, Binary and BaseN (Zhang, n.d.) (McGinnis 2016a) (McGinnis 2016b).

The goal of these sorts of transforms is to represent categorical data, which has no true order, as numeric values while balancing desires to keep the representation in as few dimensions as possible. Category\_encoders seeks to provide access to the many methodologies for accomplishing such tasks in a simple to use, well tested, and production ready package.

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