

ANNs using Keras - Street View House Numbers (SVHN) Dataset

Data:

Object recognition and image processing has become one of the hottest topics in machine learning due to its vast and creative potential applications in the real world. The ability to process visual information using machine learning algorithms can be very useful, such as [measuring the quality of NYC Bike Lanes through street imagery](#). Within this field, the Street View House Numbers (SVHN) dataset is one of the most popular ones. It has been used in [neural networks created by Google](#) to read house numbers and match them to their geolocations. This is a great benchmark dataset to play with, learn and train models that accurately identify street numbers, and incorporate into all sorts of projects.

SVHN is a real-world image dataset for developing machine learning and object recognition algorithms with minimal requirement on data formatting but comes from a significantly harder, unsolved, real world problem (recognizing digits and numbers in natural scene images). SVHN is obtained from house numbers in Google Street View images.

Data reference: <http://ufldl.stanford.edu/housenumbers/>

Data source: [Google Drive](#)

Citation :

Yuval Netzer, Tao Wang, Adam Coates, Alessandro Bissacco, Bo Wu, Andrew Y. Ng Reading Digits in Natural Images with Unsupervised Feature Learning NIPS Workshop on Deep Learning and Unsupervised Feature Learning 2011. (PDF)

Attributes:

- 10 classes, 1 for each digit. Digit '1' has label 1, '9' has label 9 and '0' has label 10.
- 73257 digits for training, 26032 digits for testing, and 531131 additional, somewhat less difficult samples, to use as extra training data

Key asks:

- Take an image from the SVHN dataset and determine what that digit is.
- This is a multi-class classification problem with 10 classes, one for each digit 0-9. Digit '1' has label 1, '9' has label 9 and '0' has label 10.