

Content 8

Random Forests

Ensemble Classifiers

1 Keywords

- Sampling with replacement

Let $\mathbf{x}_1, \mathbf{x}_2, \dots, \mathbf{x}_N$ a set of samples. Let \mathbb{N} be a discrete uniform random variable, where all values in $\{1, \dots, N\}$ are equally likely outcomes. Let $\mathbb{N}(\omega_1), \mathbb{N}(\omega_2), \dots, \mathbb{N}(\omega_N)$ N independant draws of \mathbb{N} . The sampling with replacement is defined as

$$\{\mathbf{x}_{\mathbb{N}(\omega_1)}, \dots, \mathbf{x}_{\mathbb{N}(\omega_N)}\} \quad (1)$$

- Bootstrap aggregating (Bagging)
- Random Forests