学习第8章提升方法

2019-06-10 00:00 至 2019-06-11 23:59

**Week4**

**Day1-Day2**

**任务简介：**学习第8章提升方法，学习AdaBoost算法和提升树。

**详细说明：**第8章介绍了AdaBoost算法和提升树。在第1节的学习中，通过例题8.1掌握AdaBoost算法的求解过程；通过学习第2节，了解AdaBoost算法训练误差的性质；通过学习第3节，理解AdaBoost算法与前向分步算法的关系；在第4节中，通过例题8.2掌握回归问题的提升树算法。

**学习目标：**

1、导读视频。

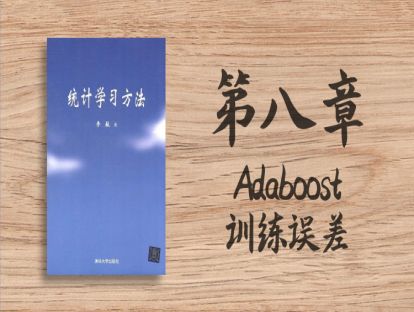
[[](https://appuaaoe86p4947.h5.xiaoeknow.com/content_page/eyJ0eXBlIjoiMiIsInJlc291cmNlX3R5cGUiOjMsInJlc291cmNlX2lkIjoidl81Y2QyZGMzYjc4YWFlX1h2OHFuMm0xIiwiYXBwX2lkIjoiYXBwdWFBb2U4NnA0OTQ3IiwicHJvZHVjdF9pZCI6InBfNWNkZDMyM2UwZWNhZl94MVdoZlJEYiJ9)](https://appuaaoe86p4947.h5.xiaoeknow.com/content_page/eyJ0eXBlIjoiMiIsInJlc291cmNlX3R5cGUiOjMsInJlc291cmNlX2lkIjoidl81Y2QyZGMzYjc4YWFlX1h2OHFuMm0xIiwiYXBwX2lkIjoiYXBwdWFBb2U4NnA0OTQ3IiwicHJvZHVjdF9pZCI6InBfNWNkZDMyM2UwZWNhZl94MVdoZlJEYiJ9)

[《统计学习方法》提升方法](https://appuaaoe86p4947.h5.xiaoeknow.com/content_page/eyJ0eXBlIjoiMiIsInJlc291cmNlX3R5cGUiOjMsInJlc291cmNlX2lkIjoidl81Y2QyZGMzYjc4YWFlX1h2OHFuMm0xIiwiYXBwX2lkIjoiYXBwdWFBb2U4NnA0OTQ3IiwicHJvZHVjdF9pZCI6InBfNWNkZDMyM2UwZWNhZl94MVdoZlJEYiJ9)

[[](https://appuaaoe86p4947.h5.xiaoeknow.com/content_page/eyJ0eXBlIjoiMiIsInJlc291cmNlX3R5cGUiOjMsInJlc291cmNlX2lkIjoidl81Y2QyZGMzYjc4YWFlX1h2OHFuMm0xIiwiYXBwX2lkIjoiYXBwdWFBb2U4NnA0OTQ3IiwicHJvZHVjdF9pZCI6InBfNWNkZDMyM2UwZWNhZl94MVdoZlJEYiJ9)](https://appuaaoe86p4947.h5.xiaoeknow.com/content_page/eyJ0eXBlIjoiMiIsInJlc291cmNlX3R5cGUiOjMsInJlc291cmNlX2lkIjoidl81Y2QyZGMzYjc4YWFlX1h2OHFuMm0xIiwiYXBwX2lkIjoiYXBwdWFBb2U4NnA0OTQ3IiwicHJvZHVjdF9pZCI6InBfNWNkZDMyM2UwZWNhZl94MVdoZlJEYiJ9)

1. 掌握AdaBoost算法的求解过程。

2. 理解AdaBoost算法的训练误差。

[[](https://appuaaoe86p4947.h5.xiaoeknow.com/content_page/eyJ0eXBlIjoiMiIsInJlc291cmNlX3R5cGUiOjMsInJlc291cmNlX2lkIjoidl81Y2QyZGQyZWM4OTEwX0ZpRWRiVG9xIiwiYXBwX2lkIjoiYXBwdWFBb2U4NnA0OTQ3IiwicHJvZHVjdF9pZCI6InBfNWNkZDMyM2UwZWNhZl94MVdoZlJEYiJ9)](https://appuaaoe86p4947.h5.xiaoeknow.com/content_page/eyJ0eXBlIjoiMiIsInJlc291cmNlX3R5cGUiOjMsInJlc291cmNlX2lkIjoidl81Y2QyZGQyZWM4OTEwX0ZpRWRiVG9xIiwiYXBwX2lkIjoiYXBwdWFBb2U4NnA0OTQ3IiwicHJvZHVjdF9pZCI6InBfNWNkZDMyM2UwZWNhZl94MVdoZlJEYiJ9)

[《统计学习方法》Adaboost训练误差](https://appuaaoe86p4947.h5.xiaoeknow.com/content_page/eyJ0eXBlIjoiMiIsInJlc291cmNlX3R5cGUiOjMsInJlc291cmNlX2lkIjoidl81Y2QyZGQyZWM4OTEwX0ZpRWRiVG9xIiwiYXBwX2lkIjoiYXBwdWFBb2U4NnA0OTQ3IiwicHJvZHVjdF9pZCI6InBfNWNkZDMyM2UwZWNhZl94MVdoZlJEYiJ9)

[[](https://appuaaoe86p4947.h5.xiaoeknow.com/content_page/eyJ0eXBlIjoiMiIsInJlc291cmNlX3R5cGUiOjMsInJlc291cmNlX2lkIjoidl81Y2QyZGQyZWM4OTEwX0ZpRWRiVG9xIiwiYXBwX2lkIjoiYXBwdWFBb2U4NnA0OTQ3IiwicHJvZHVjdF9pZCI6InBfNWNkZDMyM2UwZWNhZl94MVdoZlJEYiJ9)](https://appuaaoe86p4947.h5.xiaoeknow.com/content_page/eyJ0eXBlIjoiMiIsInJlc291cmNlX3R5cGUiOjMsInJlc291cmNlX2lkIjoidl81Y2QyZGQyZWM4OTEwX0ZpRWRiVG9xIiwiYXBwX2lkIjoiYXBwdWFBb2U4NnA0OTQ3IiwicHJvZHVjdF9pZCI6InBfNWNkZDMyM2UwZWNhZl94MVdoZlJEYiJ9)

3. 理解AdaBoost算法是前向分步算法的一个特例。

[[](https://appuaaoe86p4947.h5.xiaoeknow.com/content_page/eyJ0eXBlIjoiMiIsInJlc291cmNlX3R5cGUiOjMsInJlc291cmNlX2lkIjoidl81Y2QyZGU0Y2MxYjgzX3Frd2s3UmVCIiwiYXBwX2lkIjoiYXBwdWFBb2U4NnA0OTQ3IiwicHJvZHVjdF9pZCI6InBfNWNkZDMyM2UwZWNhZl94MVdoZlJEYiJ9)](https://appuaaoe86p4947.h5.xiaoeknow.com/content_page/eyJ0eXBlIjoiMiIsInJlc291cmNlX3R5cGUiOjMsInJlc291cmNlX2lkIjoidl81Y2QyZGU0Y2MxYjgzX3Frd2s3UmVCIiwiYXBwX2lkIjoiYXBwdWFBb2U4NnA0OTQ3IiwicHJvZHVjdF9pZCI6InBfNWNkZDMyM2UwZWNhZl94MVdoZlJEYiJ9)

[《统计学习方法》前向分步算法](https://appuaaoe86p4947.h5.xiaoeknow.com/content_page/eyJ0eXBlIjoiMiIsInJlc291cmNlX3R5cGUiOjMsInJlc291cmNlX2lkIjoidl81Y2QyZGU0Y2MxYjgzX3Frd2s3UmVCIiwiYXBwX2lkIjoiYXBwdWFBb2U4NnA0OTQ3IiwicHJvZHVjdF9pZCI6InBfNWNkZDMyM2UwZWNhZl94MVdoZlJEYiJ9)

[[](https://appuaaoe86p4947.h5.xiaoeknow.com/content_page/eyJ0eXBlIjoiMiIsInJlc291cmNlX3R5cGUiOjMsInJlc291cmNlX2lkIjoidl81Y2QyZGU0Y2MxYjgzX3Frd2s3UmVCIiwiYXBwX2lkIjoiYXBwdWFBb2U4NnA0OTQ3IiwicHJvZHVjdF9pZCI6InBfNWNkZDMyM2UwZWNhZl94MVdoZlJEYiJ9)](https://appuaaoe86p4947.h5.xiaoeknow.com/content_page/eyJ0eXBlIjoiMiIsInJlc291cmNlX3R5cGUiOjMsInJlc291cmNlX2lkIjoidl81Y2QyZGU0Y2MxYjgzX3Frd2s3UmVCIiwiYXBwX2lkIjoiYXBwdWFBb2U4NnA0OTQ3IiwicHJvZHVjdF9pZCI6InBfNWNkZDMyM2UwZWNhZl94MVdoZlJEYiJ9)

4. 掌握回归问题的提升树算法。

**作业8：**

1.自编程实现课本例题8.1

2.调用sklearn.ensemble.AdaBoostClassifier对例题8.1进行实现

打卡代码运行结果的截图。

作业答案及代码讲解在下周公布，助教会进行视频讲解。