[打印本页] [关闭]

论文

基于模糊理论和三段论推理的电影情感分类

林新棋,严晓明,郑之

福建师范大学数学与计算机科学学院计算机系, 福建 福州 350007

摘要：

人类情感反应具有模糊属性,针对直接应用视频底层特征识别情感类型难以提高精确度的问题,本研究在情感关联底层特征的基础上引入了模糊隶属函数,采用最大隶属度模糊化原则对底层特征进行处理,最终得到一种蕴含情感信息的特征来描述视频片段,为随后采用三段论推理实现电影情感分类提供了合适的特征,这种特征能缩短情感鸿沟。三类基本情感的分类精确度都超过84％,与现有方法相比,分类精确度平均提高了9.33％。因此本研究所提出的算法能有效地提高电影情感分类的精确度。

关键词： 电影情感内容 底层特征 特征强度模糊隶属函数 模糊特征向量 三段论推理

Film affective classification based on fuzzy theory and syllogism inference

LIN Xin-qi, YAN Xiao-ming, ZHENG Zhi

Department of Mathematics and Computer Science, Fujian Normal University, Fuzhou 350007, China

Abstract:

 Due to the fuzzy nature of the human emotional reaction, it is difficult to improve the accuracy only using the low-level features. Based on the relationships between the affect and low-level features obtained by the previous workers, the fuzzy membership functions were introduced, and the low-level features were processed by fuzzy principle of the maximum membership degree. Then a fuzzy feature vector was obtained, which could imply the affective information of the given video clip, and could be used to recognize the affective type by syllogism inference. The experimental results showed that the fuzzy feature vector could shorten the gap between the affects and low-level contents. The classification accuracies of three affects all exceeded 84％. Compared with the existing methods, the total average classification accuracy increased 9.33％, which proved that the proposed algorithm could effectively improve the accuracy of the film affective classification.

Keywords: film affective content   low-level feature   fuzzy membership function of feature strength fuzzy feature vector   syllogism inference

通讯作者：

作者简介：林新棋(1972-),男,福建莆田人,副教授,博士,主要研究方向为多媒体技术与信息系统及编码理论.E-mail:xqlin@fjnu.edu.cn
作者Email：

PDF Preview

参考文献：

本刊中的类似文章