Final Project

Movie Genre Classification

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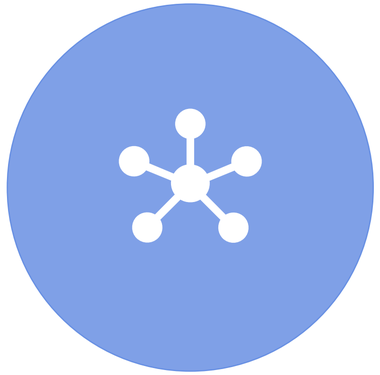
http://www.democraciaenlared.com/2015/12/lo-mejor-de-2015-peliculas-no.html

Image Processing (Poster)

Steps To Get The Solution (Part I)



PCA & Multi-class Multi-label Model

- Linear dimensionality reduction
- Number of components to keep = 32
- Training & Test images
- For each classifier, the class is fitted against all the other classes.

Image Classification Model 1

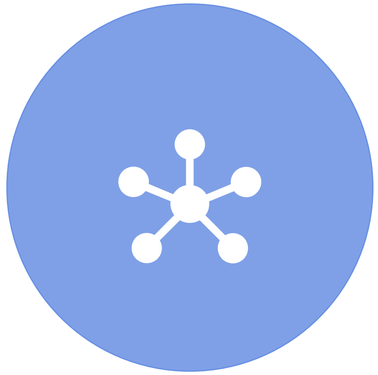
- VGG16 Pre-trained model as an input over gray images
- Neural Network:
  - Flatten
  - Dense (512) & Activation Relu
  - Dense (24) & Activation Sigmoid
  - Dropout 0.5

Image Classification Model 2

- VGG16 Pre-trained model as an input over gray images
- Neural Network:
  - 2D convolution layer X2 & Activation Relu
  - Max pooling operation & Dropout 0.25
  - Flatten & 2 Dense (128/24) & Activation (Relu/Sigmoid)
  - Dropout 0.5

Text Processing (Plot Summary)

Steps To Get The Solution (Part II)



Multi-class Multi-label Model

- For each classifier, the class is fitted against all the other classes.
- 24 genres
- Training & Test plot summaries

Text Classification Model

- Deep Neural Network:
  - Dense (128) & Activation Relu
  - Batch Normalization Layer
  - Dropout 0.5
  - Dense (24) & Activation Sigmoid

Model Selection

(Evaluation Criteria – Mean Columnwise Area Under Receiver Operating Characteristic)

	PCA & Multi-class Multi-label Model	Image Model 1	Image Model 2
ROC_AUC_SCORE	60.1%	79.4%	79.5%
	Multi-class Multi-label Model	**Text Model**	**Text Model**
ROC_AUC_SCORE	76.6%	83.8%	83.8%
CONSOLIDATED ROC_AUC_SCORE	59.05%	80.49%	79.97%

*NOTE: Run with 50 epochs