### TEAM 14 - CS109B - FINAL PROJECT

# **README**

# **Changes since Milestone 4**

- From-scratch and Pre-trained Models
  - o Improved centering and scaling
  - Removed model checkpoints
  - Added TensorBoard logging
- From-scratch Model
  - Added glorot initialization to the from scratch model
- Pre-trained Model
  - Increased patience from 20 to 25
  - Increased maximum epochs from 100 to 250
  - Decreased number of units in output layers from 4,096 to 1024
  - Reduced learning rate from 0.1 to 0.001
  - Reduced starting momentum from 0.9 to 0.5

#### **Changes since Milestone 3**

- Both People and language Models
  - Added gradient boosting classifier to both datasets
  - o Added precision, recall, and Hamming loss metrics to all models
  - Added multi-plot figure to visualize metrics
  - Added 'musical' to genres set for completeness
  - Added stacking to language and people models
- Language Model
  - Changed data source from TMDb to IMDb for consistency
  - Reduced number of principal components in QDA models from 100 to 10 to reduce overfitting
  - Changed count vectorizer to TF-IDF vectorizer for performance
  - Increased number of trees in random-forest models from 20 to 40 for performance
  - Reduced regularization parameter value in QDA models from 0.25 to 0 for performance
- People Model
  - Reduced number of principal components in QDA models from 100 to 20 to reduce overfitting
  - Increased number of trees in random-forest models from 20 to 60 for performance
  - Reduced regularization parameter value in QDA models from 0.25 to .075 for performance

### **Changes since Milestone 2**

Implemented multi-label approach to Y

#### **Changes since Milestone 1**

• Re-organized some data fields in pre-processed data