**Introduction & Motivation**
- Prolific and lead actors/actresses are easily identifiable
- Supporting cast often feel familiar, but difficult to name

**Problem:**
- Netflix, Hulu, Google Play, etc. currently cannot ID actors

**Solution:**
To develop an on-demand, actor identifier that performs:
1. Face Detection [Implemented already]
2. Face Identification [CS 230 Project Objective]
3. Object Tracking [Not implemented]

**Data Collection & Preprocessing**
- Google image searches provide actor and character images

**Facial Feature Embedding**
- Facial features are extracted with Inception-ResNet [2]
- Network is pre-trained and provided with FaceNet [3]
  - Inception-ResNet V1
  - Resulting embeddings used for face identification

**Movie Specific Model**
- Training set comes from actors and characters of one movie
- One small classification model trained for each title

**Softmax Classifier**

**General Face Identification**
- A general face ID model is developed using triplet loss and transfer learning [2]
- Faces are ID’d by comparing face encodings with anchors and taking the min of the L2 norm

**Advantages:**
- Training only required once
- Needs one anchor face image

**Disadvantages:**
- Lower accuracy than a classifier for each movie

**Model Comparisons**

**Future Work**
- Create better database creation algorithms
- Connect all models to complete video to actor ID solution
- Implement an object tracking algorithm
- Interface with a video player for real-time processing

**References**