**Problem statement and data**

- This project is based on familiar recognition and verification task. Specifically we model parent-child relationship through deep learning on facial images.
- Dataset used: Family In the Wild (FIW)
- Downloaded data captures 11 relationships across 3 generations for 1000 famous families, 5348 persons with total of 26541 face images.
- Concerned here with only parent-child relations (F-S, F-D, M-S, M-D).

**Model and loss function**

- Using a Siamese model to be trained on triplet image input sets (anchor, positive, negative) and triplet loss function
- Transfer learning from VGG-16 model (trained on ImageNet) to provide 4096 D face image encodings with 3 trainable FC layers outputting 128 D descriptor for each image in triplet
- Randomly generating negative example as person from another family

**Training and validation (M-D)**

![Loss and separation metrics with epochs](chart1)

**Results and future work**

Examples of successful verification

- AP = 1.0247
- AN = 1.8423
- AP = 0.6492
- AN = 2.2919

**Future work**

- Train other relationships
- Test on data from other datasets
- Compare to published results

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1 https://web.northeastern.edu/smilelab/RFIW2018/