

Tyson Cross 1239448, Jason Smit 709363

Progress report:

- Export cine to per video/per event image sequences:
40 %
- Create per sequence image masks (Nuke)
6%
- Experiment with Networks (initial transfer learning)
Built initial training script and begun first training with VGG16(8S) and AlexNet
First results for image classification/segmentation promising
Conversion script for RGB pixel based labels to categorical labels.
Resizing script
Overall MatLab script super structure for image classification
- Training time seems reasonable for now, with reduced training set
- Presentation with machine learning consultancy
Q&A
Broad speculation on ideas

Agenda:

Problems:

- Data labelling very slow
- Memory issues with large datasets (20k images will not train!)
- Difference in sequence length for up/down lighting: a problem for quality of classification
- Net does not understand exclusivity of labels - hierarchy option?
- Matlab image processing for input images? (Not required from initial results)
- Initial temporal network structure - LSTM with CNN? Feature extraction proposal network?
Sequence data structure? Requires more research.

Plan for next week:

- Work with reduced sample from datasets
- Try with simpler labelling/ hierarchical labelling
- Require more variety in data:
Continue export cine to per video/per event image sequences
Continue with per sequence image masks (Nuke)
- Experiment with different networks and options:
Modify output layers of googleNet, InceptionResv2, etc for segmentation
Metrics and hyperparameters for networks
- Setup environment variable to define project root paths (allows running in different environments/machines)