Level 4 Project

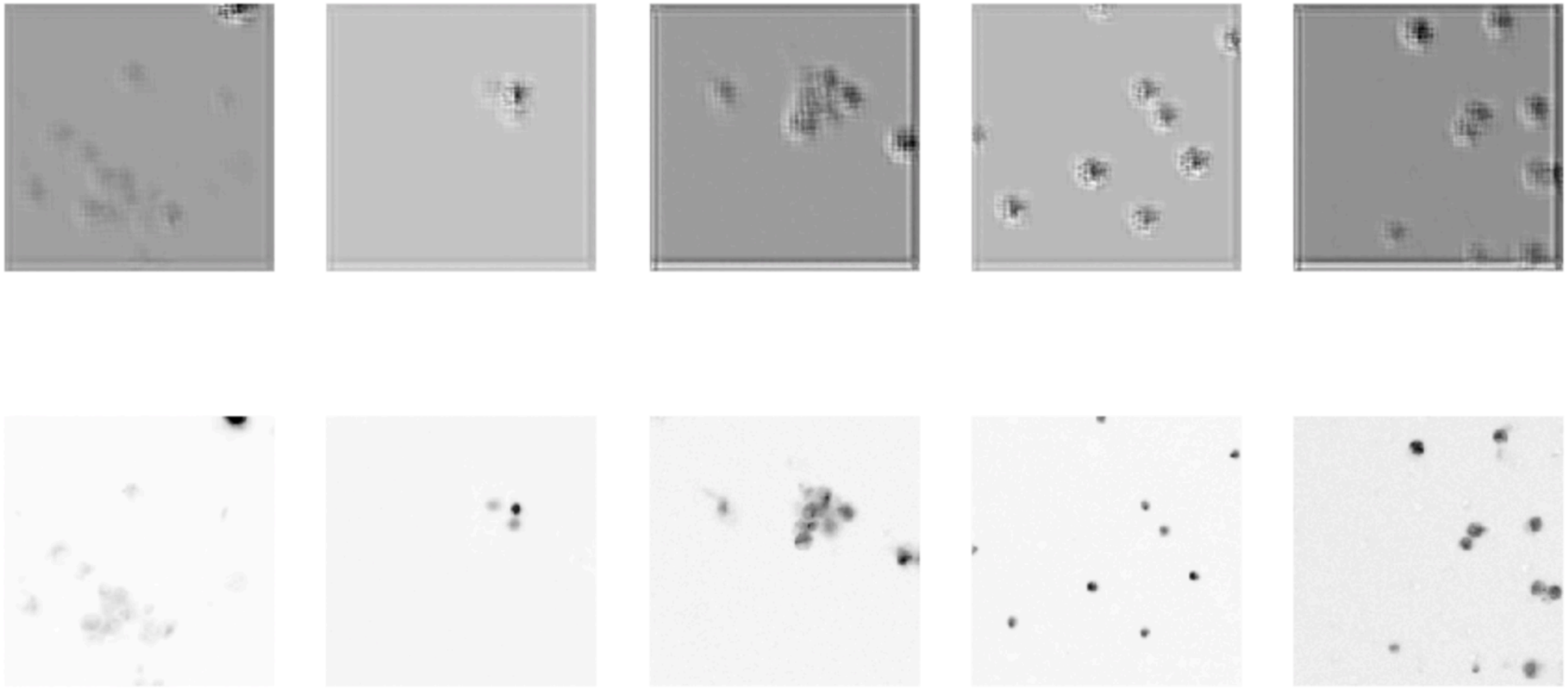
Week 8 Meeting

(Week 7 Recap)

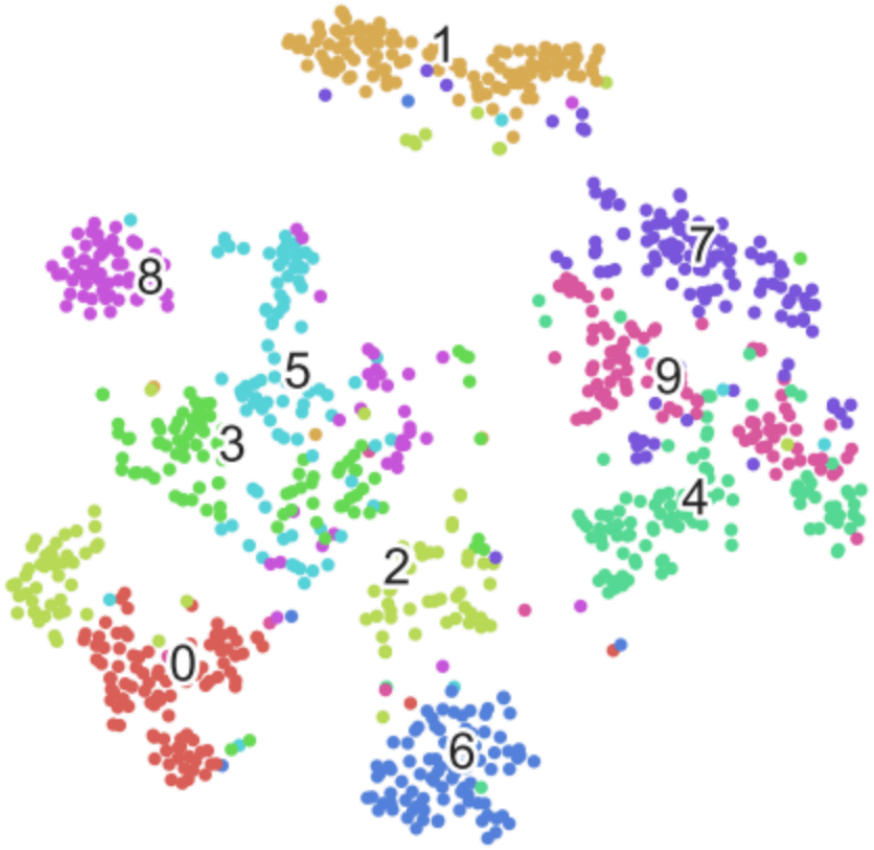
Completed work

- Labelled all the datasets (CK19, CK21, CK22)
  - Issues with OneDrive
  - CK17 had no data?
- Separated out the DMSO images from the dataset
  - However the size is limited to get good results
- Tested own autoencoder code on MNIST dataset
  - To see if the compression helped
  - Ran t-sne on compressed output
- Tested t-sne on DMSO dataset
  - Need some more data to get significant results
- Tested t-sne on full dataset

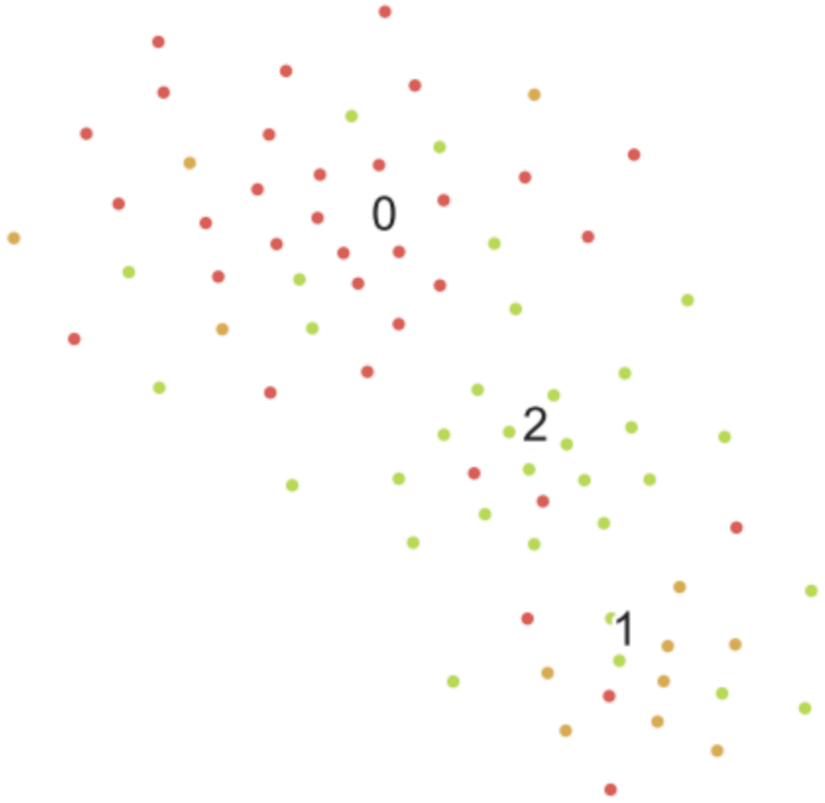
Autoencoder tuning



Autoencoder + t-sne on MNIST

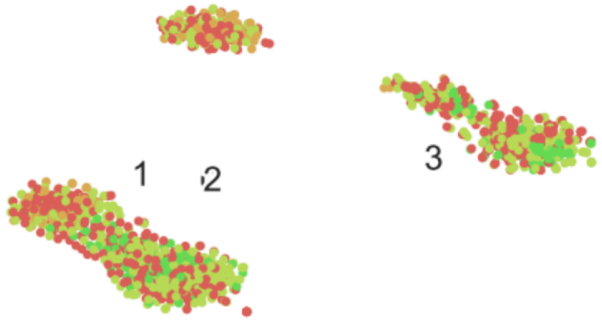


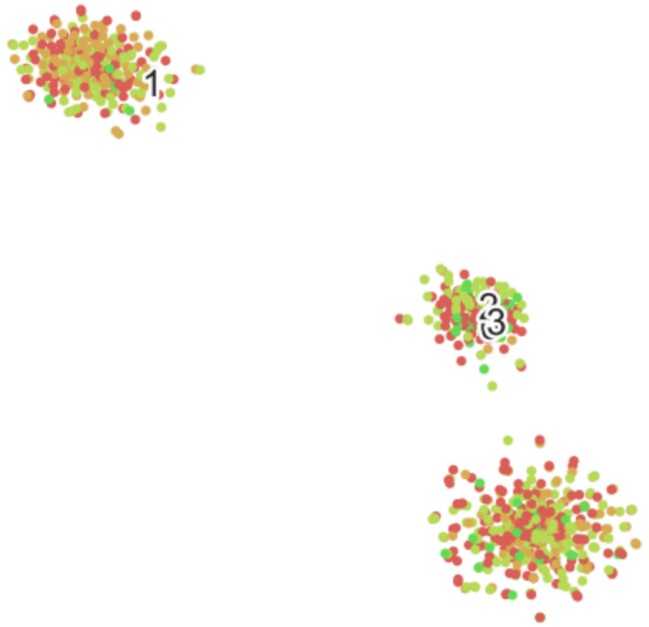
Autoencoder + t-sne on DMSO



NB: DMSO dataset has no label 3 = empty wells

Autoencoder + t-sne on larger dataset






```
# 0: unstimulated
# 1: OVA
# 2: ConA
# 3: empty
```

First image: overlapped
Second image: simple images
So not much relevant information seems to be picked out...
Also some issues with the labelling code.
Not been able to do much tuning so far.

Rough plan for semester, reworked

- ***Week 7***
  - *Follow tutorial on PCA/tsne with MNIST*
  - *Separate out DMSO data*
  - *Colab move*
  - *Tune autoencoder*
- **Week 8**
  - Clean up code!
  - More dimensionality reduction in the encoded images?
  - *Apply chosen clustering algorithm*
  - Tune clustering algorithms to improve performance
- **Week 9**
  - Tune clustering algorithms to improve performance
  - ....