8th-Jan, Post christmas

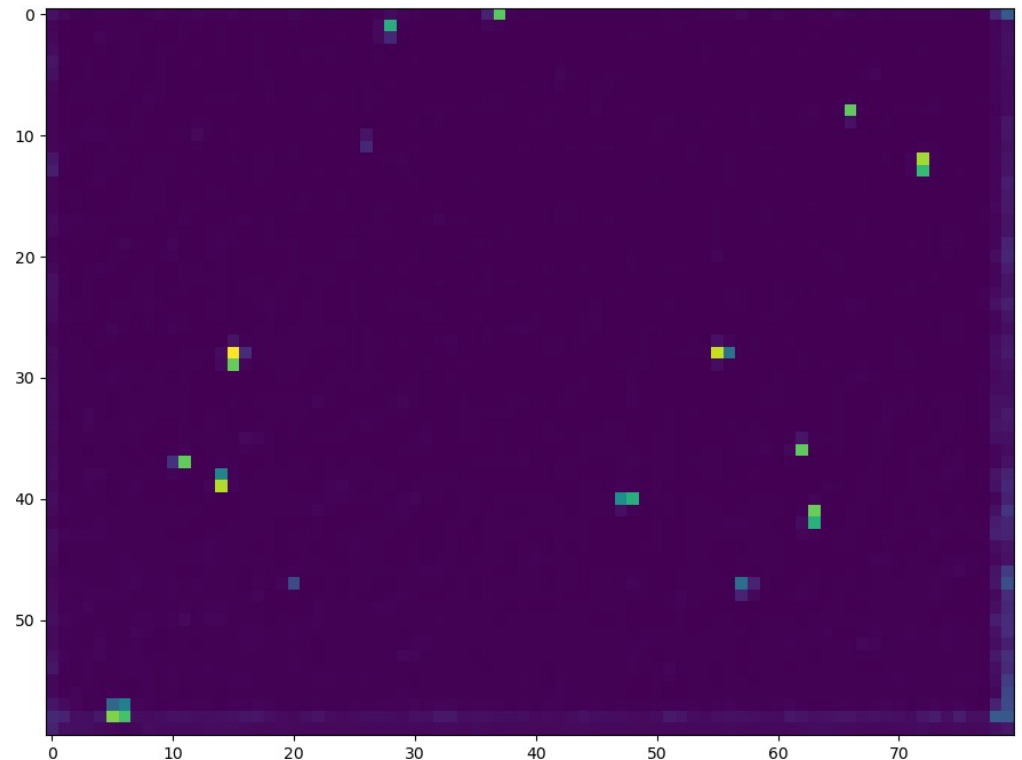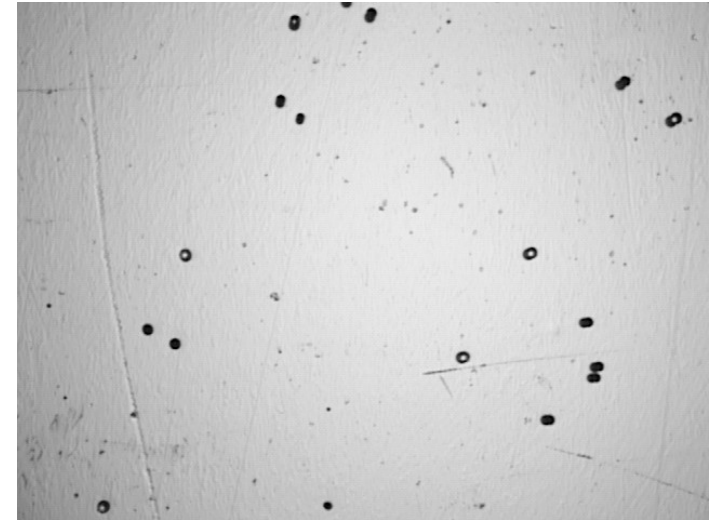l.millward@qmul.ac.uk

FCNN Inference

- Changes to ordering of maxpool layers - preserve greater spatial resoloution in final FCNN / heatmap

- 60x80 Heatmap ~ 1 pix ~ 1pit

- Pixel intensity corresponds to confidence

  [0,0.01] range ~ most bkg
  [0.01,0.1] may pick up features present in the exposed multi-channel images, but not in the unesposed foils
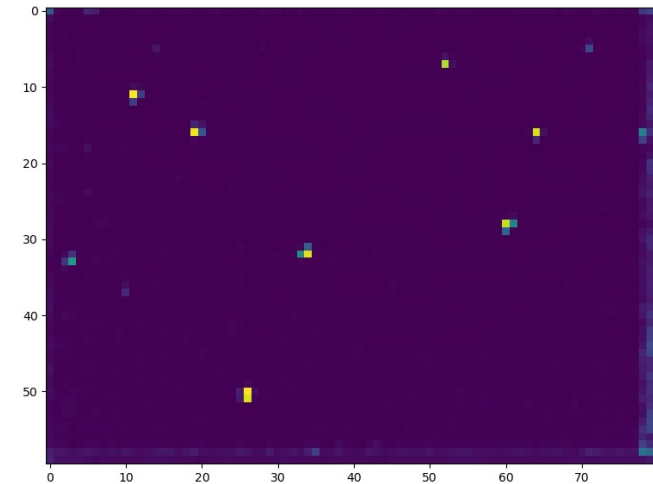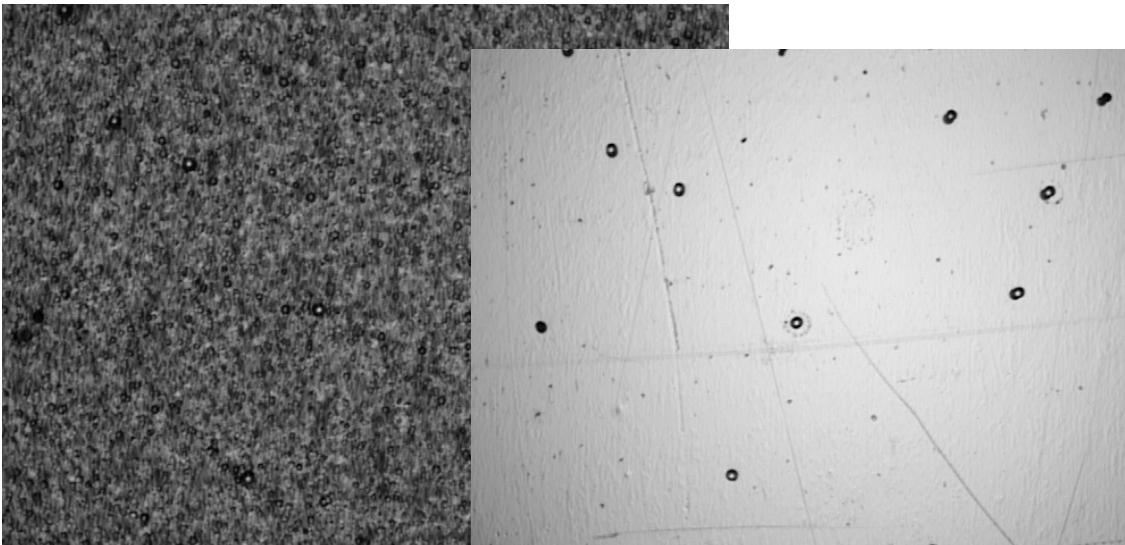 [0.1,0.5] can indicate lighter features, may / may not be identified as pits in unexposed foils known etch-pits (hard to spot in image)
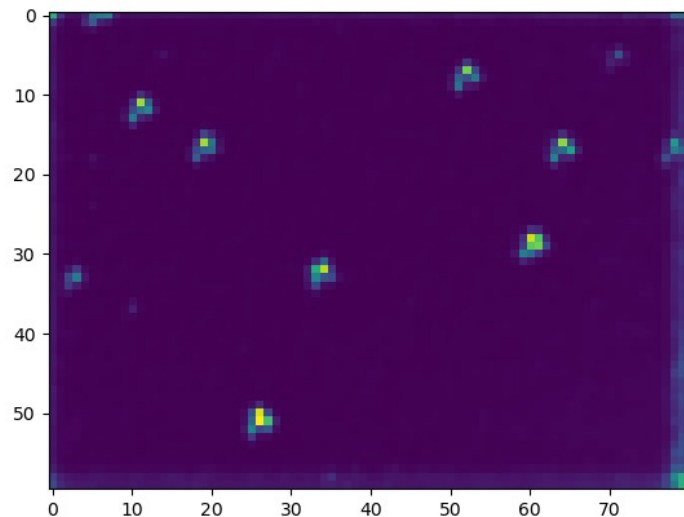 [0.5,1.0] definite well identified etch-pits

Ensemble

- Multiple Cnns, trained on different data folds

- Can be combined to reinforce eachother and reduce model variations

- Similar models can be combined as average or otherwise (eg to increase senitivity to weak scoring objects)

- Identified locations can be reclassified the original CNNs with a different working point to that used for search
    eg, Low wp. Broad Candidate search
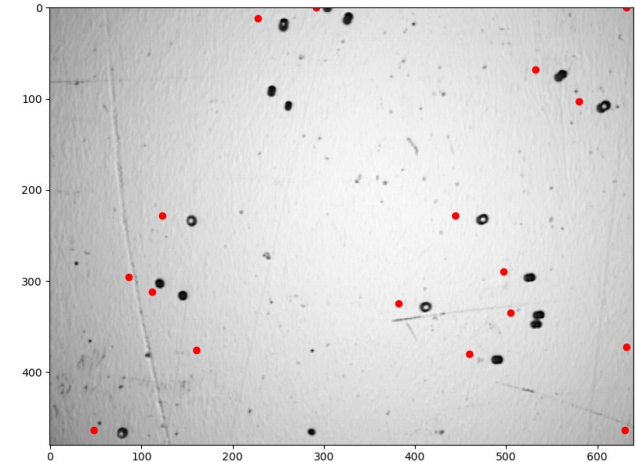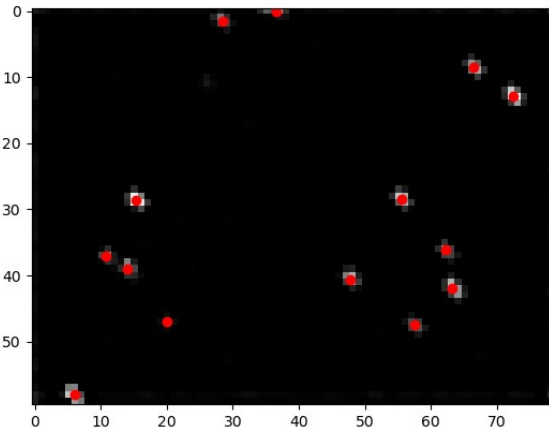   → High wp. Priority candidates

Prediction for cnn 1/5

Combined Prediction – w. smearing

Location predictions

- Some variability due to method (and threshold) used to convert heatmap to to discrete locations
- may induce miss/double counting in quantitative eval

- WIP to improve robustness

'unexposed truth' vs predicted locations from exposed offset due to foil alignment