Summary of papers on super-resolution with medical images:

**Paper 1. A Fast Medical Image Super Resolution Method Based on Deep Learning Network**

* [Link](https://ieeexplore.ieee.org/document/8471089)
* **Images:** Retinal, Brain and Bone images (3 channels red blue, green)

**A close up of a logo

Description automatically generated**

* **Network :** 3 components 🡪 sub-pixel convolutional layer + mini-network and hidden layers.

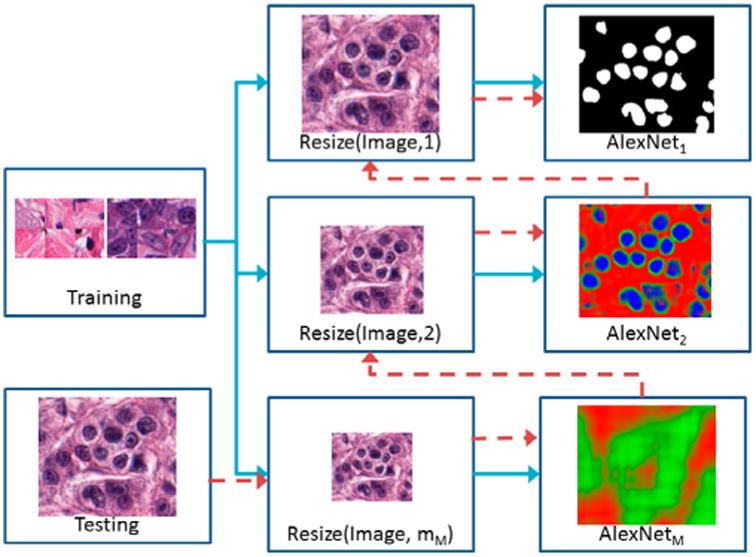
**A screenshot of a cell phone

Description automatically generated**

Sub-pixel and mini network designed to shorten time of super-resolution.

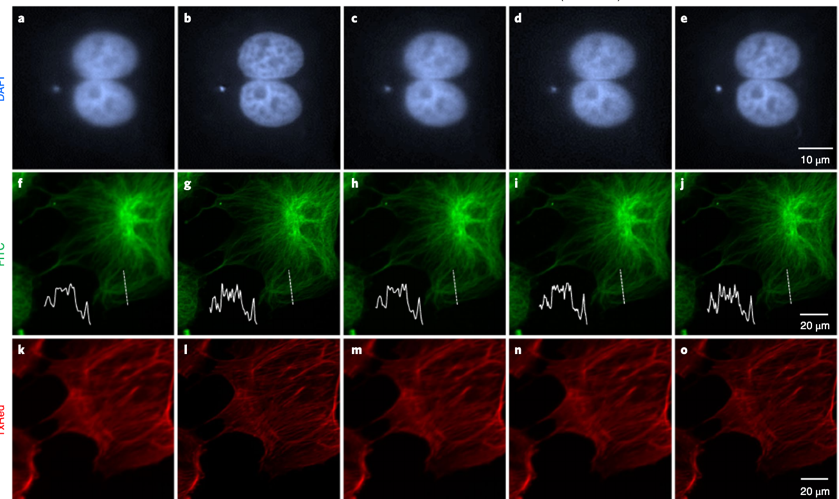
**Paper 2. (from the link you sent me) A resolution adaptive deep hierarchical (RADHical) learning scheme applied to nuclear segmentation of digital pathology images**

* [**Link**](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5935259/)
* **Images:** breast cancer images
* **Approach:** resolution adaptive hierarchical learning scheme where DL networks at lower resolution are leveraged to determine if higher levels of magnification are necessary to provide results of nuclear segmentation 🡪 so actually no high resolution creation here because I think the images are already in HR.

****

**Paper 3. Deep Learning enables cross-modality super-resolution in fluorescence microscopy**

* [**Link**](https://www.researchgate.net/publication/331512035_Deep-learning_enables_cross-modality_super-resolution_in_fluorescence_microscopy_Conference_Presentation) **for paper and** [**additionnal information**](https://static-content.springer.com/esm/art%3A10.1038%2Fs41592-018-0239-0/MediaObjects/41592_2018_239_MOESM1_ESM.pdf)
* **Images:** TIRF microscopy images of subcellular structures within cells and tissues

**A screen shot of a computer

Description automatically generated**

* **Network:** GAN Network

**A screenshot of a cell phone

Description automatically generated**

**Paper 4. Super Resolution Techniques for Medical Processing**

* [**Link**](https://ieeexplore.ieee.org/document/7095900/)
* Gives a summary of all available techniques but no precise network. Also again images provided are more bone-like.

**A picture containing photo, text

Description automatically generated**