**Medical:**

Source Domain = general images (e.g. AlexNet, ImageNet)

Target Domain = MRI images for disease diagnosis

Techniques: finetuning of Convolutional Neural Network (similar to what we’ve explored in class)

**Bioinformatics:**

Source Domain = gene sequence from one species

Target Domain = gene sequence from another species (which has less data)

Techniques: FAM, KMM

**Recommender Systems:**

Source Domain: Users or items with established data

Target Domain: New Users or items

Techniques: Instance Based and Feature Based. “Transfer Meeting Hybrid”, Coordinate System Transfer (CST).

Data in existing recommender systems provides a latent space (“Principle Coordinates”/matrix factorization) which is assumed to apply to the new users/items.

Also: Bayesian Neural Networks, Autoencoders and DANN

**Transportation:**

Source Domain: Site traffic in normal conditions

Target Domain: Site traffic in unusual, less frequent conditions

Techniques: Dimension reduction then Markov random field model

**Business Site Recommendations:**

Source Domain: Cities with plentiful data

Target Domain: Cities with less data

Techniques: Multi-modal transfer learning