Image Analysis and Deep Learning

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Since 1990, many mathematicians studied the image processing based on partial differential equations and variational methods. Using TV(total variation) and some optimization techniques, there were a lot of improvement in image processing areas. Until deep learning coming out, those were the state of art methods in these areas. But once using deep learning techniques, it turns out that in many areas in image processing fields, deep learning is the best method. I will compare the results between the variational image processing techniques and deep learning.