# Human activity recognition using neural networks

**Abstract:**

 Real estate appraisal is a complex process. While current appraisal applications offer acceptable accuracy in estimating real estate prices, none of them use the real estate images in the appraisal process. Ignoring real estate images may cause inaccurate appraisal. Images show the condition of the interior and exterior and indicate damage in different sections of a house. Quantifying the condition and damages in real estate images need expert evaluation which is costly and time-consuming. In addition, existing automatic image recognition systems didn't address this problem yet. This paper aims to develop a novel real estate appraisal system which evaluates the property's interior and exterior condition using property's images. Due to the outstanding performance of Region-based CNN (R-CNN), we used an enhanced R-CNN network called Mask R-CNN to evaluate the condition of each property image. While damages in real estate images might be hard to locate, Mask R-CNN is able to capture the finely detailed objects precisely. The system is expected to be an integral module to existing real estate appraisal systems to enhance the appraisal process

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