

Image smog restoration using
oblique gradient profile prior and
energy minimization

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Problems & Ideas

Images captured in poor environment suffer from poor visibility due to haze, fog, smog, etc.

Existing desmogging models are based upon a physical model, it means it requires efficient estimation of transmission map and atmospheric veil from single smoggy image.

Also, the existing restoration models suffer from various issues such as distortion of texture, edges and colors.

Therefore, in this paper, a convolutional neural network (CNN) is used to estimate the physical attributes of smoggy images.

Oblique gradient channel prior (OGCP) is utilized to restore the smoggy images. Initially, a dataset of smoggy and sunny images are obtained.

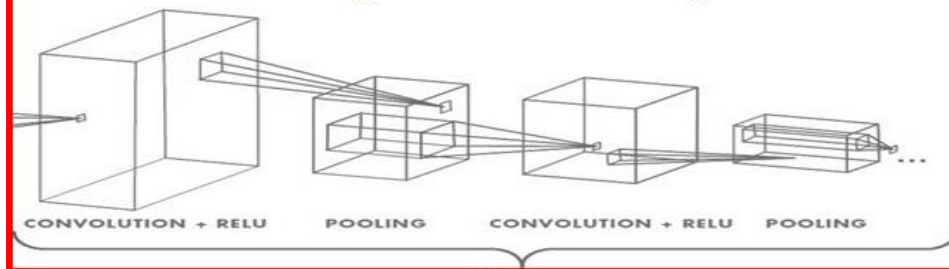
Proposed Model

Smog and Smog-free images



Apply pre-processing techniques

Extract smog related features using CNN



Train CNN based smog gradient prediction model

Return smog gradient prediction model

Visual Analyses



(a)



(b)



(c)



(d)



(e)



(f)



(g)



(h)



(i)