

## عنوان مقاله:

Extraction Road Features using Fourier Transformation In a Satellite image

## محل انتشار:

دهمین کنگره بین المللی مهندسی عمران (سال: 1394)

تعداد صفحات اصل مقاله: 8

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## خلاصه مقاله:

is possible to form any function  $f(x)$  as a summation of a series of sine and cosine terms of increasing frequency, also any space or time varying data can be transformed into a different domain such as frequency space[1].The term frequency in computer vision usually is to do with variation in brightness or color across the image. If an image represented in frequency space, has high frequencies then it means that image has sharp edges or details[2].In this paper an new approach is proposed for edge enhancement of the images using Fourier transformation concept which this transformation has been already employed in image processing applications for edge detection purpose.At first a portion of satellite image of Tabriz city,located in northwest from Iran was selected which includes the area of urban regions such as buildings, streets and also avenues. These featurers are more reiterative than the roadways and highways, thus they have high frequency than the roadway and highway. Since the purpose is the enhancing the roadways or highways features, thus it is required to define a filter that enhances the low frequencies and omit high frequencies. With design filter in the form of line and match it on the selected frequency domain, then swiping it on the other selected frequencies we have image which have enhanced roadway and highway that is suitable for road detection processing. Comparision this result with the famous edge detection operators such as Sobel and Canny we have better result in sharpening edges than those are. thus, that is obvious that the processing in the frequency domain is very flexible than the processing in the special domain and we can edit or cut whenever of desired frequency for having the best results

## کلمات کلیدی:

Image processing, Edge detection, Computer vision, Filtering, Fourier Transform, Descrit Fourier Transform, Fast Fourier Transform, Inverse Fourier Transform

## لینک ثابت مقاله در پایگاه سیویلیکا:

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