Blur Kernel Estimation by Using Bees Algorithm

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***Abstract*— Camera shake is a common source of degradation in digital images taken by an unmanned air vehicle (UAV). Usually, blur kernel is used to reduce the taken image. Blur kernel means the map of camera shake while photo is taken. Estimating an unknown blur kernel from a single input blurred image is a severely ill-posed problem. Blind image deblurring means deblurring with an unknown blur kernel. Blind image deblurring algorithms have been improving continuously in the past years. Most state-of-the-art algorithms still cannot perform perfectly in most cases. In this paper, we focus on how to estimate a good blur kernel from a single blurred image by using Bees Algorithm (BA). We become aware of using BA is a good way to estimate an unknown blur kernel. BA is firstly used for image deblurring in this paper.**

***Index Terms*—Bees Algorithm, BA, blur kernel, blur kernel estimation, blind deblurring.**

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