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**Jeremy J Yagle\*** (j.j.yagle@iup.edu). *Using Boundary Following Algorithms to Identify User-Defined Mountain Bike Trails in Topographic Map Images.*

Given an aerial image and a corresponding topographical map, I present a series of steps to extract elevation information for a user-defined mountain bike trail drawn on the map. The use of a Digital Elevation Model (DEM) provides the needed elevation data, and several basic image processing techniques are then used to generate both a two-dimensional elevation profile and three-dimensional trail profile. The foundation of the process relies on the use of a Moore Boundary Following Algorithm incorporating radial sweep techniques.

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