Architecture Tweaking Image Analysis S/W for Automated Identification of Land Features in Satellite Images

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To dynamically track environmental changes, we need an automated method that identifies land features like forest health etc. from satellite images. Existing softwares (S/W) rely on professionals to analyse graphs, supply patterns or locate important objects in images, making it time consuming & often inaccurate. My S/W, enabled by its novel architecture tweaking methodology, identifies land features in Landsat images without any human analysis. My S/W is not supplied with fixed algorithms(algos). Instead it is only supplied with self-adaptable algos: basic structures of image analysis algos that aren't algos on their own. When my S/W is trained with data, instead of learning the training values, it tweaks the architecture of base algos by changing their structure & combining them to form entirely new algos. These algos are generated in the training phase using a variant of the Monte Carlo method as a guide. The self-created algos combine simulated false colour images, clustering & texture analysis. This S/W opens research avenues by finding patterns geographers usually don't look for. For eg.To determine vegetation type, instead of finding canopy density, my S/W clustered bare soil gaps between canopies by drawing obtuse triangles & stretching them. My S/W identified 4 land features with 96% accuracy. Being automated & accurate, it can dynamically track environmental changes. When trained with images of biopsy tissues, my S/W(with same base algos) performed cancer diagnosis, as under suitable restrictions, this task resembles the Landsat image analysis my S/W did.

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