Deriving Structural and Spectral Features from Aerial Multispectral Imagery for Crop Monitoring

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Aerial multispectral imagery can allow for improved crop management by providing growers with critical spectral and structural features that are related to their crop properties. However, analysis of these spectral and structural features is not a straightforward process and requires trained personnel to process and interpret the aerial images. Commercial software has been developed to automate the preprocessing of aerial images, but there is still a lack of methods developed to automate the data analysis of the preprocessed images. For this reason, we have developed an automated pipeline that will analyze the aerial images for extracting key spectral and structural features. This pipeline simplifies the processing and removes the need for specialized personnel. Our work will make the aerial image data ready for subsequent analysis such as on estimating crop biomass, which contributes to automating crop monitoring and improving decision-making in crop management.