



High Resolution 3D Soil Mapping System

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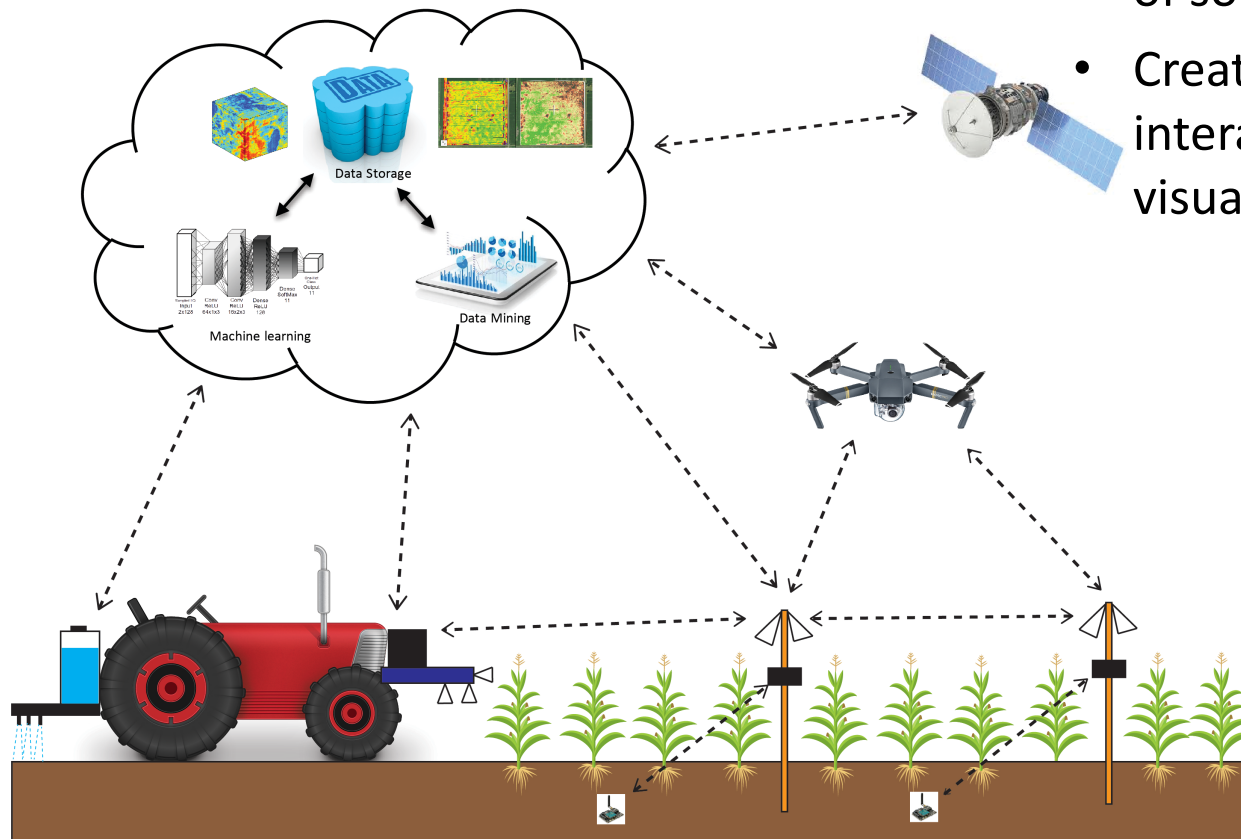
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Description

Digital agriculture: controlling and predicting present and future based on past and present data

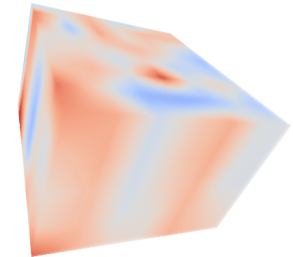
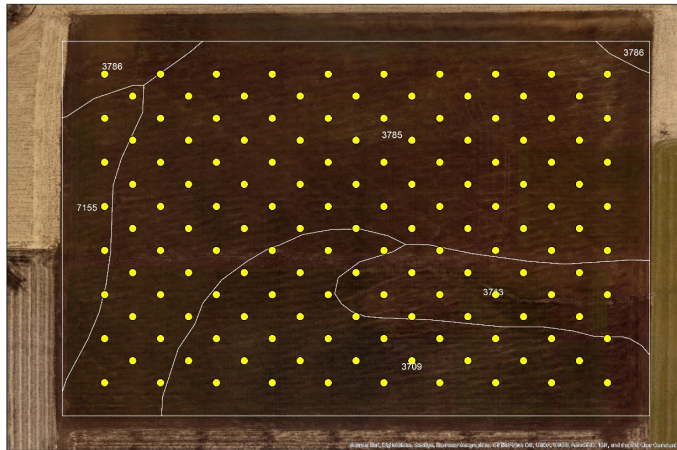
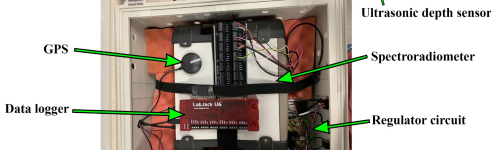
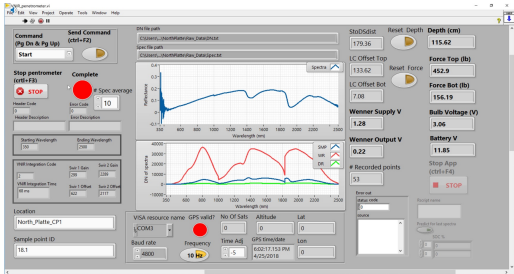
Goals of This Project:

- Develop and deploy an instrument platform to collect high resolution soil data in lateral and vertical dimensions
- Investigate novel spatial statistical approach to model the distribution of soil properties in 3D
- Create a scalable cyber system for interactive soil mapping and visualization in 3D



Progress and Findings

- Continuous-depth soil sensor based on Visible and Near Infra-red spectroscopy – developed and deployed
- UAV system with multispectral camera – deployed
- Field data collection – Havelock farm @ UNL
- Hyper-spectral Volume Rendering (HVR) – Under development



Colormap: **Cool Warm**

Mouse Controls: Left-click + drag to rotate, scroll to zoom, right-click + drag to pan.
Touch Controls: One finger drag to rotate, pinch to zoom, two finger drag to pan.

Loaded Volume

spectral-0.96_84_60.dat

Intensity Lower Bound(0-1): 0

Intensity Upper Bound(0-1): 1

Lock bound difference

