

Keerthana Santhemogenahalli Anandaswamy

B.Sc. (Hons.) Agriculture | Research Intern

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Professional Profile

I am an agriculture graduate and research intern in the Soil Hydrology & Remote Sensing Laboratory at the LSU AgCenter. My research integrates soil hydrology, digital agriculture, environmental sensing, and precision agriculture to improve understanding of soil hydraulic behavior under Louisiana conditions. My work combines laboratory experimentation, field investigations, sensor validation, and data analysis to support research on soil–plant–water interactions, hydraulic characterization, and environmental monitoring. I have hands-on experience with HYPROP, KSAT, PARIO, WP4C, soil moisture sensors, and data processing workflows used for soil hydraulic modeling.

Research Interests

• Soil Hydrology • Digital Agriculture • Remote Sensing • Soil Physics • Hydraulic Characterization • Environmental Sensor Validation • Soil–Plant–Water Interactions • Precision Water Management • Climate-Resilient Agriculture

Education

University of Agricultural Sciences, Bengaluru

B.Sc. (Hons.) Agriculture (2022–2026) CGPA: 8.2/10

Research Experience

Research Intern – Soil Hydrology & Remote Sensing Laboratory

LSU AgCenter, Louisiana State University, USA

May 16 – November 16, 2026

- Conducted hydraulic characterization of Louisiana soils using HYPROP, KSAT, PARIO and WP4C.
- Generated soil water retention curves, hydraulic conductivity functions and estimated van Genuchten parameters.
- Measured saturated hydraulic conductivity and evaluated variability across Louisiana soil profiles.
- Collected intact soil cores, bulk density and moisture measurements following standard protocols.
- Installed, maintained and validated in-situ environmental and soil moisture sensors against laboratory observations.
- Performed quality assurance, preprocessing and validation of sensor datasets.
- Assisted in field sampling, laboratory testing, interpretation of hydraulic properties and technical reporting.
- Supported Digital Agriculture research through integration of sensor observations with soil hydraulic datasets.

Research Project

Hydraulic Characterization of Louisiana Soils Using Soil Water Retention Curves

Estimated soil hydraulic properties from laboratory measurements, compared hydraulic behavior among soil layers, interpreted retention and conductivity functions, evaluated soil heterogeneity, and prepared publication-quality figures and technical presentations.

Conference & Scientific Presentation

Poster Presentation

Digital & Precision Agriculture Day, LSU AgCenter

Nelson Memorial Building

10 August 2026

Hydraulic Characterisation of LaCADIAN Soils

Technical Expertise

Laboratory: HYPROP, KSAT, PARIO, WP4C, Soil Water Retention Analysis, Hydraulic Conductivity, Soil Sampling, Bulk Density, Gravimetric Moisture, Soil/Water/Plant/Fertilizer Analysis.

Field: Sensor installation, Sensor validation, Environmental monitoring, Soil core collection, Data logging.

Computing: R, Python, Microsoft Excel, Statistical Analysis, Data Visualization, AI & Machine Learning for Agriculture.

Relevant Coursework

Soil Physics, Soil Science, Soil Fertility, Agricultural Meteorology, Environmental Science, Statistics, Remote Sensing, Artificial Intelligence & Machine Learning in Agriculture.

Awards & Recognition

International Research Internship, LSU AgCenter, Louisiana State University, USA.