Title: Applied AI for Plant and Soil Systems (PB 495/CSSC 495/HS 495)

Instructor: Debjani Sihi (email: dsihi@ncsu.edu)

Short Description: This 3-credit undergraduate course introduces students to Artificial Intelligence (AI), Machine Learning (ML), Remote Sensing, sensor data, and data-driven approaches in agriculture and plant science. Students will learn to collect, integrate, and analyze soil, crop, plant, weather, and sensor data, applying these skills to address real-world agricultural problems. Topics include yield prediction, modeling soil properties, carbon and nutrient cycling, plant disease detection, weed identification, and forecasting for agricultural systems using AI and ML models. Students will participate in interactive, hands-on exercises in data analysis, modeling, and visualization, culminating in a team-based capstone project that applies AI and ML to practical agroecosystem challenges. No prior programming or coding experience is required. Students will bring their own laptops to class.

Prerequisite: CS 213 or SSC 200 or HS 201 or PB 200 or PB 250 or CALS Major or Instructor Permission

Time: Tue/Thu at 11:45 am - 1 pm

Location: 1400 WMS