



AgAID  
Institute

National Agricultural AI Institute  
for Transforming Workforce  
& Decision Support

# Artificial Intelligence for Specialty Crop Agriculture

USDA National Institute of Food and Agriculture  
UNITED STATES DEPARTMENT OF AGRICULTURE



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## WHO WE ARE

We build and foster human-AI partnerships to sustain specialty-crop agriculture and help feed our growing population. We bring together top researchers from diverse disciplines to empower agriculture professionals with trailblazing AI-tools to assist decision making. Our research can transform the way AI systems are designed and built to solve complex societal problems.

## AgAID INNOVATIONS & IMPACTS

- Simulating orchard environments to train robot workers
- Optimizing water allocation using deep temporal models
- Developing streamlined human-AI workflows
- Advancing robot sensing and control
- Improving streamflow forecasting models
- Designing Inclusive user interfaces

## HOW WE HELP

We work with specialty crops that demand long term management, use a lot of water, and are vulnerable to the impacts of extreme weather. We harness the combined power of human and artificial intelligence in three key areas:



### Water Intelligence

fallow prediction | streamflow forecasting | water use modelling



### Farm Operations Intelligence

irrigation management | frost mitigation | heat-stress management



### Labor Intelligence

farm robotics | improved workflows | human-AI interaction