CCALS: the Commonwealth Center for Advanced Logistics Systems

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CCALS: research

- A unique collaboration between industry, government and universities designed to deliver transformational improvements to logistics systems.
- CCALS solves logistics problems for business and government.
  - Large-scale logistics systems
  - Supply Chain system dependability, reliability, security and trust
  - Human factors in logistics (demographics, workforce, behaviors and processes)
  - Supply chain and risk management
  - Unmanned vehicles
  - Robotic and AI research

CCALS: workforce development

- CCALS powers the future of logistics-dependent organizations by providing members unique access to highly qualified, skilled and in-demand workers.
- Partner universities connect top students to CCALS' industry partners, and CCALS' central Virginia location is home to an expanding logistics industry that includes major business and government logistics operations.
- Academia Members:
  - University of Virginia:
  - Virginia State University
  - Virginia Commonwealth University
  - Longwood University
  - Old Dominion University

VSU CoE: workforce development

- Computer Science
- Engineering Department
- Applied Engineering Technology Programs
- Information Logistics Technology
- Mechanical Engineering Technology
- Electrical and Electronics Engineering Technology
- Project Management Certificate
- Center of Academic Excellence in Cyber Defense Education

Logistics Convoy

- drones with land unmanned autonomous vehicles (UAVS) using AI and machine learning to aid in wayfinding
- Developping new navigation and tracking technology
  -

AI Tracks at Sea

This challenge solicits software solutions to automatically generate georeferenced tracks of maritime vessel traffic based on data recorded from a single electro-optical camera imaging the traffic from a moving platform

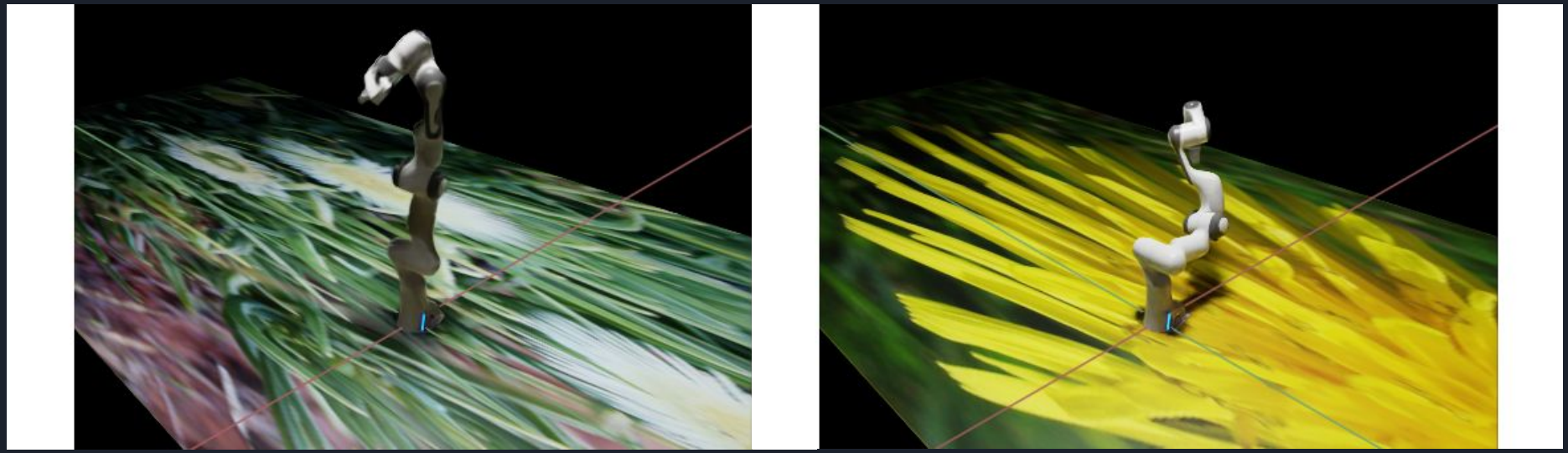
Department of Defense - Department of the Navy, Naval Information Warfare Center Pacific

CHALLENGE DETAILS

- TOTAL CASH PRIZES OFFERED: $200,000
- TYPE OF CHALLENGE: Software and apps, Technology demonstration and hardware, Analytics, visualizations, algorithms
- PARTNER AGENCIES | FEDERAL: Naval STEM Coordination Office, managed by the Office of Naval Research
- SUBMISSION START: 10/01/2020 03:00 AM ET
- SUBMISSION END: 12/02/2020 03:00 AM ET

Maneuver Robotics Learning: Inverse Kinematics with Large AI Models

- RL algorithms learn policies that map end-effector goals to joint actions through trial and error
- Complex robot manipulator tasking with end-to-end vision pipeline



Intelligent Image augmentation for robust domain adaptation

- Domain shift
- Need for domain-robust image classifiers that perform well beyond its training dataset,
- perform reasonable well on data that was not available during model training.

YES

drone?