ROS-Industrial Consortium Americas
2021 Annual Meeting-April 13

Robotics Education

Jack Reilly and Camilo Buscaron
AWS Robotics and Autonomous Systems
Robotics use is accelerating in key industries

Robotics is undergoing fundamental change in collaboration, autonomous mobility, and increasing intelligence

By 2023, it’s estimated that autonomous mobile robots AMRs will emerge as the standard for logistic and fulfillment processes

By 2030, 70% of all mobile material handling equipment will be autonomous

Source: IDTechEx

Logistics  Construction  Retail  Healthcare
Consumer home  Energy and utilities  Oil and gas  Agriculture
EIU’s ‘automation readiness index’ points to a need for education focus\(^1\)

Many instructors still write their own in-house texts\(^2\)

University faculty note a shortage of low-cost, small-form-factor equipment

Talent with the requisite skill sets are needed, we must start way earlier… \(^3\)

Learning Pathways:
$1.3B Market headed to $3.1B

Instructional Programs
Physical Platforms
Training
Educational Resources
AWS Robotics: EDU Program

Democratize robotics
Support ROS Community
Create features and resources to support learners and educators
Program Components:
Curriculum, Platform and Robot
Cloud Robotics Curriculum: 8 module pathway

- Phased release
- Open source
- Guided learning or modular
- Aligned to a low cost robot
- AWS Educate or GitHub
Based on Waveshare JetBot, extended for education

ROS / ROS2

Camera / LIDAR / Speaker / Mic

Companion simulation model (SDF/URDF)

Support from NVIDIA
AWS RoboMaker: service suite

- Development Environment
- Simulation
- Cloud Extensions
- Fleet Deployment
Robotics Training: Call to Action

Read about our curriculum in the AWS Robotics Blog:

Join AWS Educate:

Order your robot from Waveshare:

More details on AWS RoboMaker:

Amazon hopes to teach 29 million people by 2025
Questions