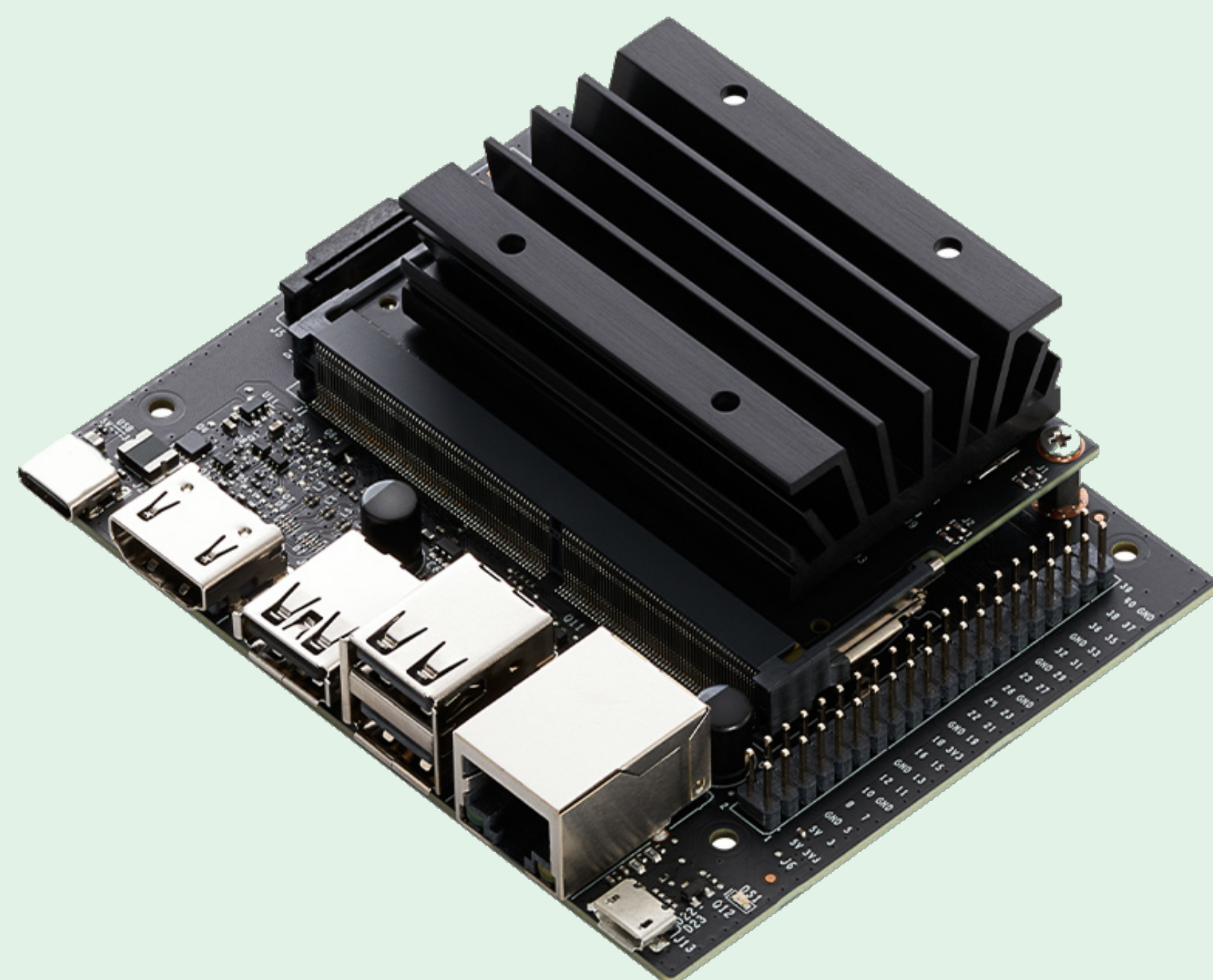


Main motivation

- Autonomous vehicles
- Ground and aerial vehicles
- Speed / Robustness
- In-field processing
- Sim2Real
- Multiple sensors

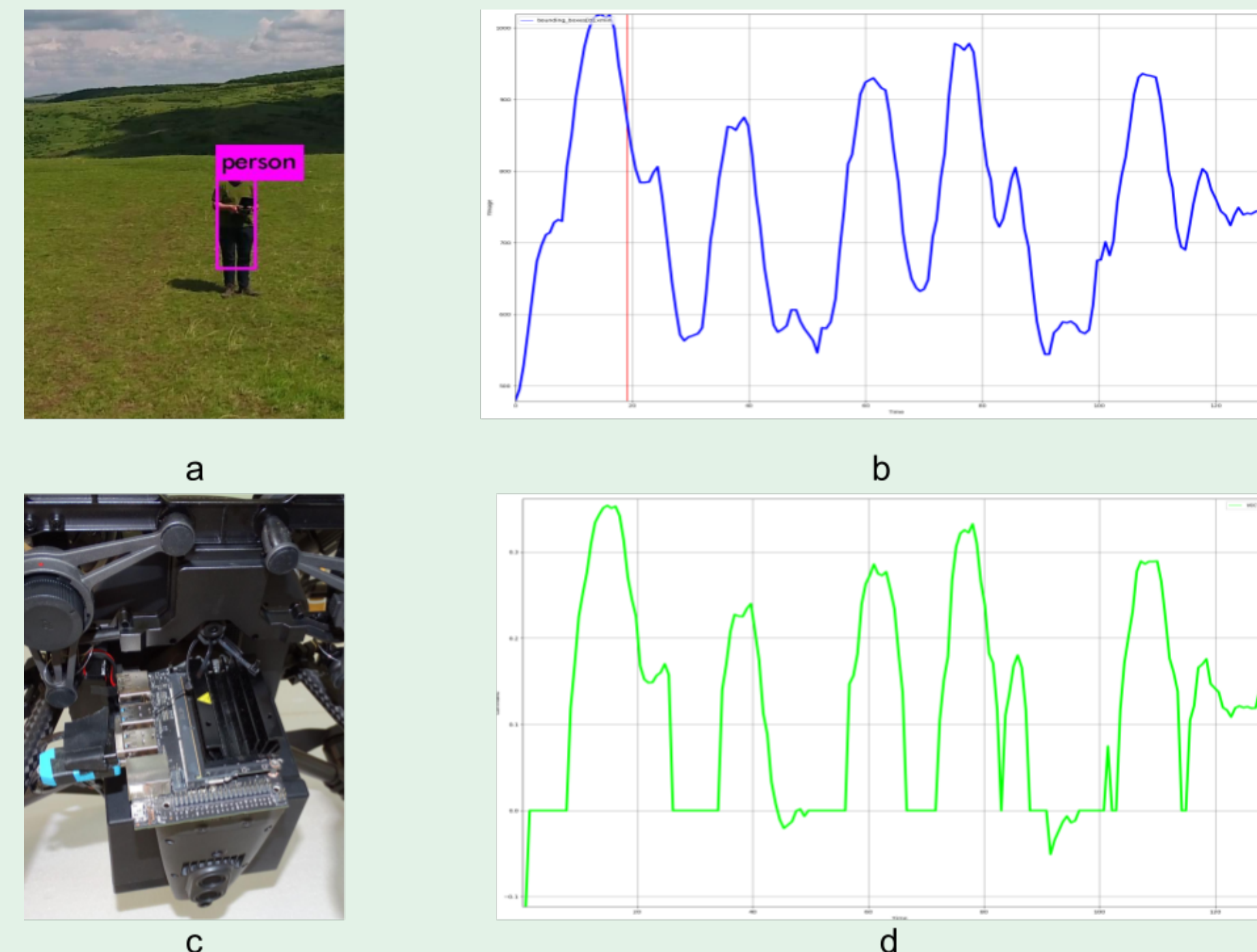
Nvidia Jetson Family

- Nvidia Jetson Nano
- Nvidia Xavier NX
- Nvidia Xavier Agx
- Small form-factor
- Energy efficient processing
- Low power consumption



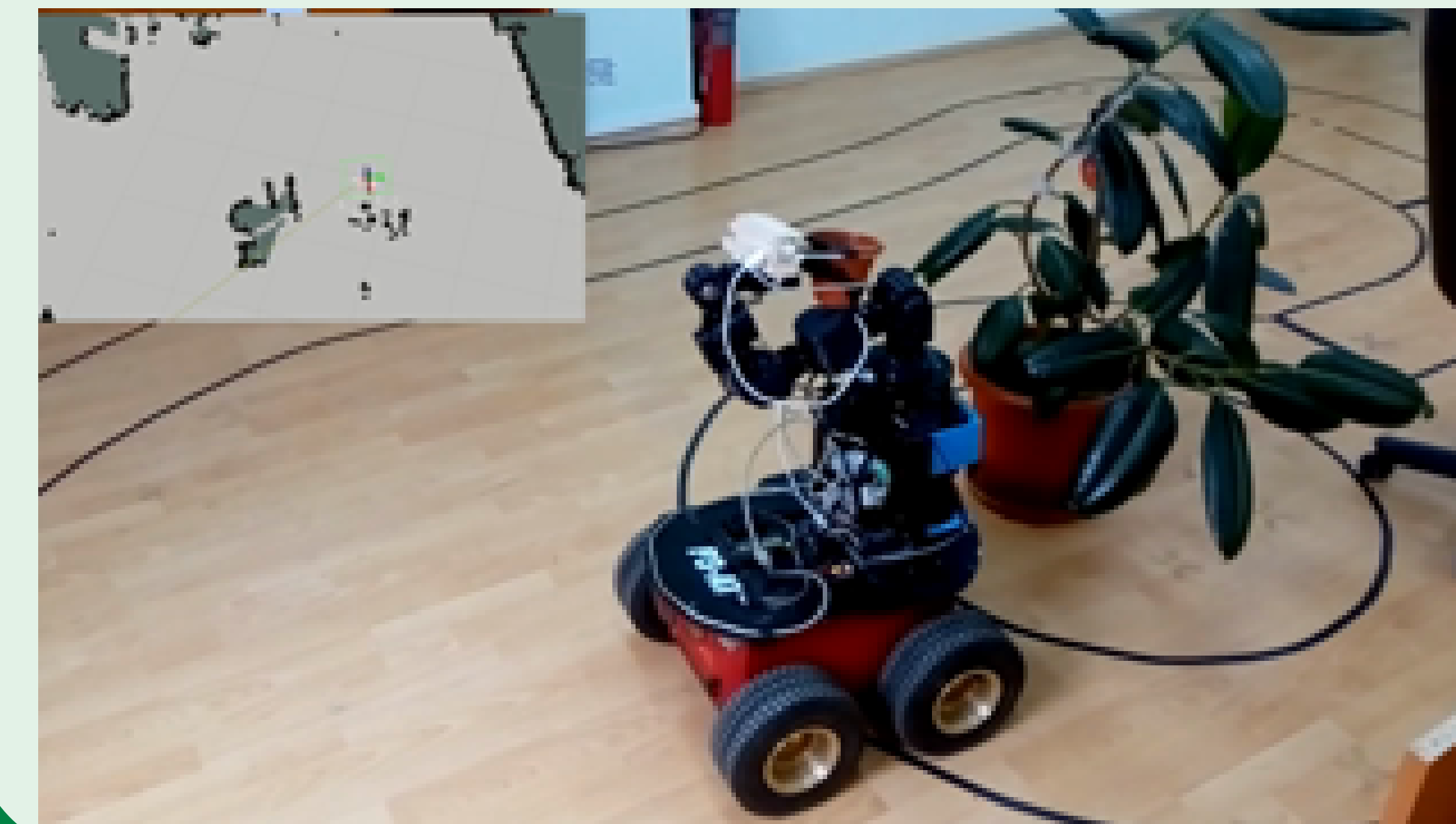
Onboard tracking

- Jetson Nano, DJI Matrix 200, RGB camera
- Drone movement (blue), command (green), tracked human (fuchsia)



Onboard pick-place

- Jetson Nano, Pico Zense DCAM170
- Fruit picking with SLAM navigation and Joint controll
- Combining LiDAR data, RGB image, Depth information



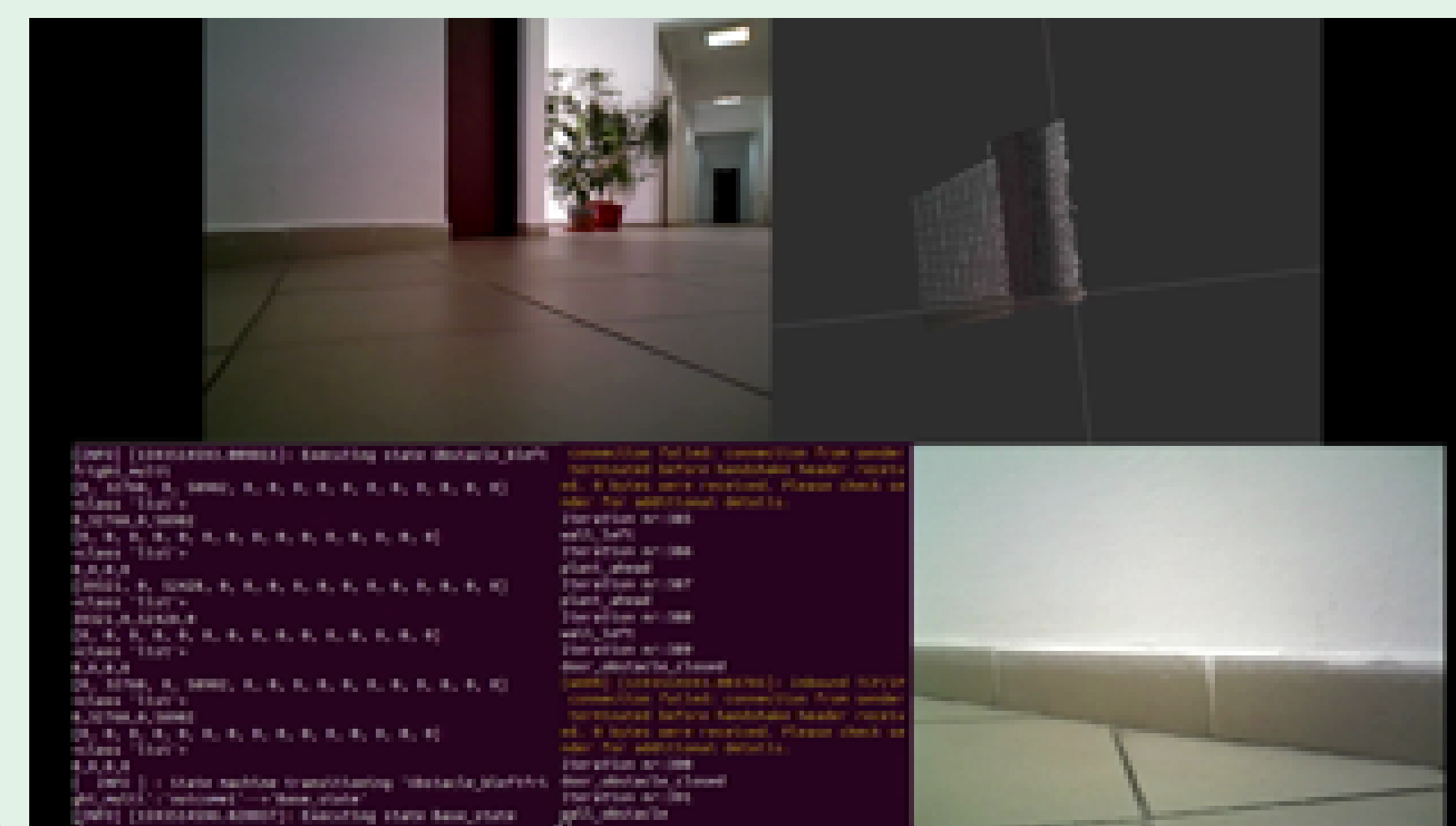
Data acquisition

- ADI Smart Camera
- Pico Zense Camera
- Asus Xtion Pro
- RGB camera
- Time-of-Flight/Depth camera
- IMU/GPS



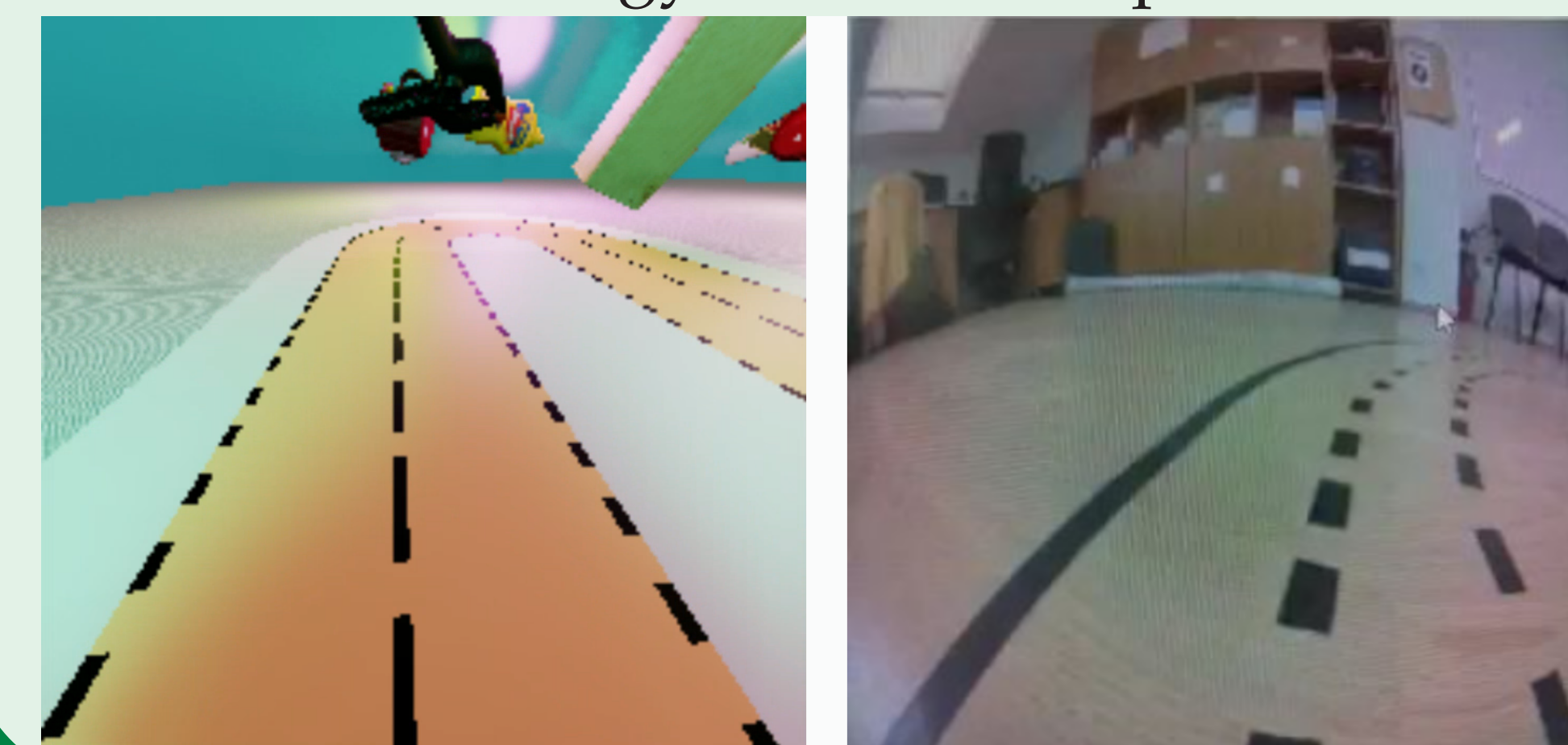
Onboard AGV guiding

- Jetson Nano, Asus Xtion camera
- Onboard point cloud processing for navigation
- Kaolin architecture



Sim2real AGV

- Jetson Nano and Nvidia Omniverse
- Training a neural network on a simulated environment (Nvidia Omniverse) on a performant computer
- Run the model on real hardware (Jetbot) on a low-cost energy efficient computer



Acknowledgement

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