



# UP Squared RoboMaker Developer Kit

The UP Squared RoboMaker Developer kit is the easiest way to get started with your robotics project powered by AWS RoboMaker. Utilize the power of AI Core X with Intel® Movidius $^{\text{TM}}$  Myriad $^{\text{TM}}$  X VPU, Intel® RealSense $^{\text{TM}}$  Camera and Intel® Distribution of OpenVINO $^{\text{TM}}$  to add intelligence to your robot application with the option to easily upgrade to a physical robot.









### Hardware overview

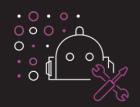
- UP Squared board with Intel Atom® X7-E3950 processor 4 GB of RAM and 64 GB eMMC
- RealSense D435I camera
- Al Core X Mini PCle\* card with the Intel® Movidius™ Myriad™ X Vision Processing Unit (VPU)
- Intel AC3165 WiFi kit
- Power Supply
- US & EU power Cord

#### **Preinstalled Software**

- Ubuntu\* 16.04 desktop
- Intel® Distribution of OpenVINO™ toolkit 2019 R1.1 release
- Intel® Media SDK
- Drivers for Intel® VTune™ Amplifier, Intel® Energy Profiler, Intel® Graphics Performance Analyzers
- MRAA and UPM I/O and sensor libraries for C++, Python\*, Java\*, and JavaScript\*

# aws RoboMaker Service

easily develop, test, and deploy robotics applications



Cloud Extensions for ROS



**Development Environment** 



Simulation



Fleet Management

## UP Squared RoboMaker Developer Kit sample applications



**UP** Bot simulation



Hello world



Robot monitoring



Navigation and person recognition



Object-following using RL



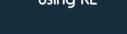
Voice commands



**D435 SLAM** 



Self-driving using RL



## Upgrade the kit to a robot on wheels!

- Follow the UPBot building instructions
- 3D print, purchase and assemble the additional components
- Upgrade your software with the project published on GitHub





UP is a brand of AAEON Technology Europe, an associate company of ASUS group, focused on Embedded Computing, Artificial Intelligence on the Edge, Internet Of Things and Industry 4.0. UP's mission is to spread the intelligence in all the world around us. UP bridges the gap between the world of prototypes and the world of high-grade mass-produced intelligent systems solutions. UP gives affordable and easily accessible and support of all the latest technologies to embedded industry.



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