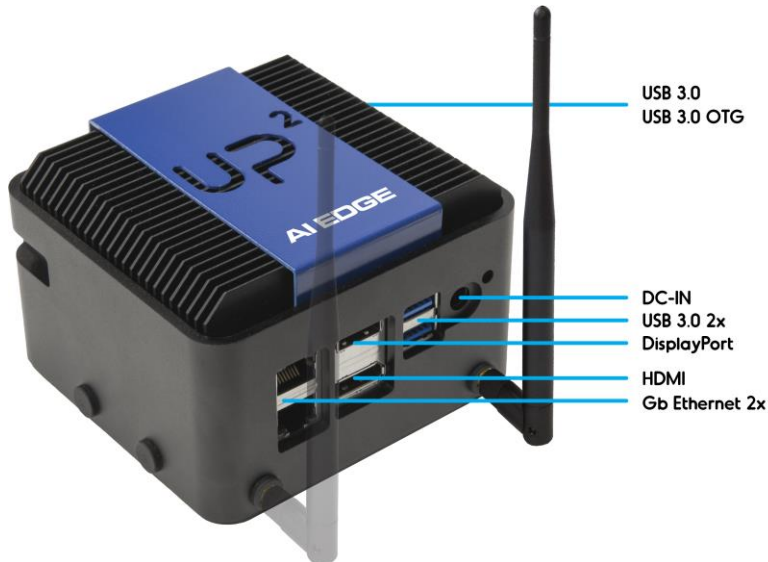# UP² Edge Compute
Quick users guide

The UP Squared edge compute is your IoT and AI development platform, running Ubuntu. You'll connect your monitor, keyboard, mouse, and Ethernet, and use this platform to write your code.

Your UP Squared Edge Compute system

USB 3.0
USB 3.0 OTG

DC-IN
USB 3.0 2x
DisplayPort
HDMI
Gb Ethernet 2x

What's in your kit

UP Squared system(Ubuntu 16.04 OS & OpenVINO™ Toolkit)

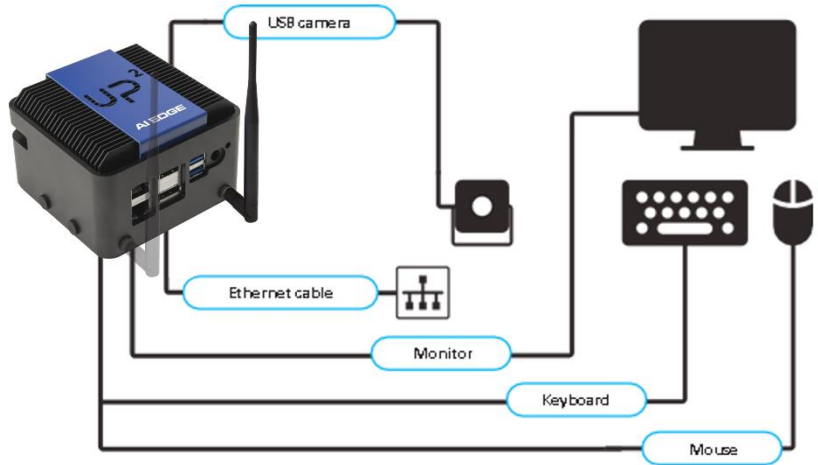USB Camera (Only for AI Vision Kit)

USB Drive

Power Supply

You'll need the following, not included:
- A monitor with either HDMI or DisplayPort
- USB keyboard and mouse
- Ethernet cable (or optional WiFi, purchased separately)

For more information about your UP board, software, accessories and peripherals, please visit
www.up-community.org

1 **Connect**

2 **Power on**

1. Make sure to connect monitor before powering up – if the board is powered up before connecting a monitor, you may need to power cycle the board to see the display
2. Connect power supply to the board and plug in power supply to an outlet

Caution: this is a high-performance board and may get hot during operation.

4 **Log in**

Log in to your Ubuntu 16.04 OS with the following credentials:

Username: upsquared
Password: upsquared

If you have proxy settings set them now: (System Settings > Network > Network Proxy).

4 **Get started**

To start IoT development, you can download any other IoT development platforms on line.

To start AI development: Open the "Getting Started" icon on the Desktop. It will open a browser to software.intel.com/up-squared-ai-vision-dev-kit/get-started. Follow the instructions there. * to run Intel® Movidius™ Myriad™ X, you need to have at least OpenVINO 2018 R5, The latest version can always help the performance.

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Intel® System Studio license code

Save this code for later or when prompted:

Safety Precautions

Please read the following safety instructions carefully. It is advised that you keep this manual for future references

1. All cautions and warnings on the device should be noted.
2. Make sure the power source matches the power rating of the device.
3. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
4. Always completely disconnect the power before working on the system's hardware.
5. No connections should be made when the system is powered as a sudden rush of power may damage sensitive electronic components.
6. If the device is not to be used for a long time, disconnect it from the power supply to avoid damage by transient over-voltage.
7. Always disconnect this device from any power supply before cleaning.
8. While cleaning, use a damp cloth instead of liquid or spray detergents.
9. Make sure the device is installed near a power outlet and is easily accessible.
10. Keep this device away from humidity.
11. Place the device on a solid surface during installation to prevent falls.
12. Do not cover the openings on the device to ensure optimal heat dissipation.
13. Watch out for high temperatures when the system is running.
14. Do not touch the heat sink or heat spreader when the system is running
15. Never pour any liquid into the openings. This could cause fire or electric shock.
16. As most electronic components are sensitive to static electrical charge, be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and contain all electronic components in any static-shielded containers.
17. If any of the following situations arises, please the contact our service personnel:
    I. Damaged power cord or plug
    II. Liquid intrusion to the device
    III. Exposure to moisture
    IV. Device is not working as expected or in a manner as described in this manual
    V. The device is dropped or damaged
    VI. Any obvious signs of damage displayed on the device
18. **DO NOT LEAVE THIS DEVICE IN AN UNCONTROLLED ENVIRONMENT WITH TEMPERATURES BEYOND THE DEVICE'S PERMITTED STORAGE TEMPERATURES (SEE Following Table) TO PREVENT DAMAGE.**

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UP² - Specifications

SOC	Memory
Intel® Celeron™ N3350 (up to 2.4 GHz) Intel® Pentium™ N4200 (up to 2.5 GHz) Intel® Atom™ X5-E3940 / X7-E3950	2GB/4GB/8GB LPDDR4

SOC
Intel® Celeron™ N3350 (up to 2.4 GHz)
Intel® Pentium™ N4200 (up to 2.5 GHz)
Intel® Atom™ X5-E3940 / X7-E3950

Graphics
Intel® Gen 9 HD, supporting 4K Codec Decode and Encode for HEVC4, H.264, VP8

Video & Audio
HDMI 1.4b x1 4K @ 30 hz + DP 1.2 4K @ 60 hz
I2S audio port

Camera interface
MIPI-CSI2 2-lane (2MP) + MIPI-CSI2 4-lane (8MP)

Display interface
eDP

Power
5V DC-in @ 4A-6A

Operating humidity
0% ~ 90% relative humidity, non-condensing

Operating Tempature
32-140°F / 0~60°C

Altera MAX 10 FPGA
2KLE --Celeron/ Pentium
4KLE -- ATOM

Memory
2GB/4GB/8GB LPDDR4

Storage Capacity
32 GB / 64 GB / 128 GB eMMC

USB
3x UB3.0 (Type A) + 1x USB 3.0 OTG (Micro B)
2x USB2.0+2 X UART (Tx/Rx) debug port (pin header)

Ethernet
2x Gb Ethernet (full speed, Realtek 8111G) RJ-45

RTC
Yes

Expansion
40 pin General Purpose bus + 4-channel 12-bit A/D converter (500 ksps to 1 Msps)
60 pin EXHAT
1xmini-PCIe (full-size, auto switch to m-SATA)
M.2 2230, SATA3

Compatible Operating system
Microsoft Windows 10 (full), Windows IOT Core, Linux (ubilinux, Ubuntu, Yocto), Android Marshmallow

Dimensions
3.37" x 3.54" / 85.60 mm × 90 mm

Certificate
CE/FCC Class A, RoHS compliant, REACH

FCC Statement

Warning!

This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Caution: There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions and your local government's recycling or disposal directives.

Attention: Il y a un risque d'explosion si la batterie est remplacée de façon incorrecte. Ne la remplacer qu'avec le même modèle ou équivalent recommandé par le constructeur. Recycler les batteries usées en accord avec les instructions du fabricant et les directives gouvernementales de recyclage.

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China RoHS Requirements (CN)

产品中有毒有害物质或元素名称及含量
AAEON Main Board/ Daughter Board/ Backplane

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板 及其电子组件	O	O	O	O	O	O
外部信号 连接器及线材	O	O	O	O	O	O

O：表示该有毒有害物质在该部件所有均质材料中的含量均在
　　SJ/T 11363-2006 标准规定的限量要求以下。

X：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出
　　SJ/T 11363-2006 标准规定的限量要求。

备注：此产品所标示之环保使用期限，系指在一般正常使用状况下。

China RoHS Requirements (CN)

Poisonous or Hazardous Substances or Elements in Products
AAEON Main Board/ Daughter Board/ Backplane

Component	Poisonous or Hazardous Substances or Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
PCB & Other Components	O	O	O	O	O	O
Wires & Connectors for External Connections	O	O	O	O	O	O

O: The quantity of poisonous or hazardous substances or elements found in each of the component's parts is below the SJ/T 11363-2006-stipulated requirement.

X: The quantity of poisonous or hazardous substances or elements found in at least one of the component's parts is beyond the SJ/T 11363-2006-stipulated requirement.

Note: The Environment Friendly Use Period as labeled on this product is applicable under normal usage only

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