



NEW HORIZON COLLEGE OF ENGINEERING

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Event: A Workshop on “NVIDIA Jetson Nano Developer”

Time-9:00 AM to 4:50 PM

Venue: Altair Lab



Department of Artificial Intelligence & Machine Learning

Organizes
A Workshop on

NVIDIA Jetson Nano Developer

Subject Matter Experts:

Dr. Sreejith S

Associate Professor

Ms. Supriya B Rao

Assistant Professor

 02 February 2024 | 09:00 AM - 04:50 PM

 Altair Lab

 5th semester

Faculty Coordinators:

Dr. Sonia Maria Dsouza

Associate Professor

Ms. Shravya Shetty

Assistant Professor

Convenor:

Dr. N.V Uma Reddy

HOD - AI & ML





On 2/02/2024, a workshop was conducted on NVIDIA Jetson Nano Developer for all the AIML students of 5th semester. The workshop was divided into two sessions. First session was conducted by Dhiran Kumar Reddy and Kruthi S B, both gave a brief introduction about Jetson Nano. Second Session was hands-on session held by Kamalesh Seervi, Nitisha Patil and ChethanS P (5th Sem Students), The concepts were introduced from the absolute basics as this workshop was designed to cater a participants with any skill level. The students showed a keen interest in the workshop and have gained a hands-on experience in the topics of Jetson Nano. This workshop was a good learning experience for the participants.



The NVIDIA Jetson Nano Developer Kit is a small, powerful computer that lets you run multiple neural networks in parallel for applications like image classification, object detection, segmentation, and speech processing. All in an easy-to-use platform that runs in as little as 5 watts.

The power of AI is now in the hands of makers, self-taught developers, and embedded technology enthusiasts everywhere with the NVIDIA Jetson Nano Developer Kit. This easy-to-use, powerful computer lets you run multiple neural networks in parallel for applications like image classification, object detection, segmentation, and speech processing. In this workshop, the participants will use Jupiter iPython notebooks on their own and Jetson Nano to build a deep learning classification project with computer vision models.

On the other hand, the Nvidia Jetson Nano is a more powerful board that is better suited for AI and machine learning projects. It is primarily designed for commercial applications and use cases. It has a more capable GPU than the Raspberry Pi, making it ideal for applications that require high-performance computing.



5. Students must maintain discipline and silence inside the laboratory.
6. Attendance of students for every laboratory class is compulsory.
7. Students should maintain discipline and silence inside the laboratory.
8. Completion procedure for the laboratory programs should be written in the first page of observation and the record notebook.

Points

1. Do not switch off the system abruptly.
2. Do not change your allotted system.
3. Do not do any damage to a system and its accessories.

To not talk or create disturbances during a laboratory session

9. Any student wishing to use the facility should take the permission of the lab instructor before he/she can commence using the facility.
10. Students should properly shut down the system before leaving the lab.
11. Student should ensure that chairs, keyboards and monitors are arranged properly back in place before leaving the lab.
12. Students are advised not to attempt to remove or modify any application or file sharing software without the permission of the lab instructor/system administrator.

NVIDIA Jetson Nano Developer Kit, a low-cost platform for developing Artificial Intelligence (AI) applications.

The NVIDIA Jetson Developer Kit was introduced in late 2018 and became available in early 2019. It's an inexpensive product with impressive capabilities.

The Jetson Nano Development Kit is part of the NVIDIA Jetson line of Artificial Intelligence development platforms. While most of the Jetson platforms are quite expensive the Nano kit is priced at only \$99 USD, bringing the power of the Jetson platform to students, experimenters, makers, and independent developers.

The NVIDIA Jetson Nano Developer kit contains a Jetson Nano module mounted on a carrier board. The carrier board has 4 USB3 ports, a Gigabit Ethernet connector and both HDMI and DisplayPort video connectors. There is also a 40-pin GPIO connector that is Raspberry Pi GPIO compatible.

The Jetson Module is a card with a huge heatsink and a 260-pin SODIMM connector. It has a Quad-core ARM A57 CPU running at 1.43 GHz, a 128-core Maxwell GPU, and 4GB of ultra-fast memory.

In the Jetson Nano Developer Kit, the module has a microSD card, there is also a production version of the module that uses NVRAM.

As this is a developer kit the idea is that you would develop your software on a microSD card and then burn it onto NVRAM in your production design. Your design would use a 260-pin SODIMM connector for the module, bringing the power of Jetson to your own products.

Once we have it set up we have run a few CUDA parallel processing demos.





The Convenor Dr.N.V. Uma Reddy (Professor & HOD/AIML) Subject Matter Experts Dr. Sreejith S (Associate Professor), Ms. Supriya B Rao (Assistant Professor) Faculty Coordinator Dr. Sonia Maria Dsouza (Associate Professor), Ms. Shravya Shetty (Assistant Professor)

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HOD

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