Dynamic power management in NVIDIA Jetson TX2

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With the development of Internet, there are exponential improvement on embedded system. And it makes the new concept of it called IOT. Now, IOT is the one of the biggest issue in the world. Representatively, there are two parts developed for it, wearable devices and embedded car. They need so many embedded chips and sensors. So many chips and sensors attached on the everywhere and on all the things need enormous energy. That’s the reason for reducing the energy of the embedded system. I profiled current, voltage and power. And find where can I reduce the energy by using dvfs system which is dynamic voltage and frequency system. DVFS tool built in TX2 board which is developed for reducing energy. Nvidia Jetson TX2 has double CPU. The one is arm cortex A57 which has quad core two giga hertz and the other is Nvidia denver2 which has dual core two giga hertz. JetPack 3.0 which is the tool built in this board includes preset platform configurations for setting Jetson TX2. It can provide 5 cpu mode to optimize the energy efficiency. JetPack 3.0 also includes a new command line tool called “nvpmodel” for switching profiles at run time. To profile the power, PARSEC benchmark can be simulated diverse environment of computer system on TX2 board.