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# Nuvoton and Skymizer Achieve MLPerf Tiny Benchmark Leadership Using NuMaker M467HJ

**Hsinchu, Taiwan, June 27, 2023 -** Nuvoton Technology Corporation and Skymizer have achieved MLPerf Tiny Benchmark leadership in the Cortex-M4 MCU category through a combination of the NuMaker M467HJ evaluation board, and Skymizer's ONNC ML optimization. The Nuvoton M467-series MCU uses an Arm Cortex-M4F microcontroller operating at 200MHz, 67% faster than typical Cortex-M4F speeds, which in collaboration with ML software optimization using Skymizer's neural network technologies, enabled it to achieve class-leading inference performance.

### A Highly Capable Platform for Embedded Solutions Using Edge AI

MLCommons is an independent machine learning performance benchmarking association, which has become the trusted standard for evaluating ML performance on a wide range of systems. The MLPerf Tiny Benchmark focuses on practical ML use cases that run on embedded systems, including visual wake word, keyword spotting, image classification, and audio anomaly detection.  
  
The Nuvoton M467 series boasts a large 512KB of SRAM, 1024KB of Flash memory, and a rich set of integrated system features and peripherals, including DSP, FPU, DMA, CAN-FD, I2S, USB, camera interface, crypto accelerators, and 10/100 Ethernet MAC. These features make it an ideal choice for systems designers to build devices that integrate tinyML into various emerging applications, such as smart home automation, smart city and infrastructure, light edge AI in IoT, smart manufacturing, and many more emerging use cases.  
  
Skymizer's ONNC compiler played a crucial role in optimizing the machine learning software stack for the M467-series Cortex-M4F, resulting in remarkable gains in inference speed and enhancing the overall performance of machine learning applications.  
  
The collaboration between Nuvoton Technology Corporation and Skymizer showcases their commitment to providing cutting-edge solutions for ML in power-efficient embedded systems. By combining hardware excellence with software optimization, they have unlocked new possibilities for ML-based applications on MCU, enhancing capabilities across industries.   
  
The outstanding results achieved in the MLPerf Tiny Benchmark's Cortex-M4 MCU segment highlight Nuvoton's and Skymizer's dedication to pushing the boundaries of machine learning performance in resource-constrained environments.  
  
Learn more about the Nuvoton NuMaker M467HJ evaluation board:  
<https://www.nuvoton.com/board/numaker-m467hj/>  
  
See the MLPerf Tiny Benchmark result here:  
<https://mlcommons.org/en/inference-tiny-11/>

### About Nuvoton Technology Corporation

Nuvoton Technology Corporation (Nuvoton) was founded to bring innovative semiconductor solutions to the market. Nuvoton was spun-off as a Winbond Electronics affiliate in July 2008 and went public in September 2010 on the Taiwan Stock Exchange (TWSE). Nuvoton focuses on the developments of microcontroller, microprocessor, smart home, cloud security, battery monitoring, component, visual sensing and IoT with security ICs and has strong market share in Industrial, Automotive, Communication, Consumer and Computer markets. Nuvoton owns 6-inch wafer fabs equipped with diversified processing technologies to provide professional wafer foundry services. Nuvoton provides products with a high performance/cost ratio for its customers by leveraging flexible technology, advanced design capability, and integration of digital and analog technologies. Nuvoton values long term relationships with its partners and customers and is dedicated to continuous innovation of its products, processes, and services. Nuvoton has established subsidiaries in the USA, China, Israel, India, Singapore, Korea and Japan to strengthen regional customer support and global management. For more information, please visit [http://www.nuvoton.com](http://www.nuvoton.com/).

### About Skymizer

Skymizer is an AI system software company, established in 2013. Our main focus is on providing a complete software development kit (SDK) for Neural Networks. Based in Taipei and Hsinchu Science Park, Skymizer's AI model compiler, called ONNC, is versatile and can be utilized across various hardware structures, ranging from single IoT core systems to complex multicore heterogeneous systems. In response to the growing demand for AIoT, Skymizer offers comprehensive optimization and hardware/software co-design solutions for MCUs. Moreover, Skymizer is committed to broadening our horizons beyond MCUs and venturing into new AIoT research fields, including micro NPUs and On-Device Learning. For more information, please visit [https://www.skymizer.com](https://www.skymizer.com/).