

High Performance and Energy Efficient Processor for Next Generation Data Centres: FUJITSU - MONAKA

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Abstract:

As our society makes a digital shift, demand for energy and sustainable solutions raises growing energy demands from the ever-increasing needs of data centres. Japan's New Energy and Industrial Technology Development Organization (NEDO) has launched an ambitious initiative that aims to achieve energy savings of 40% or more in datacentres domestically by 2030. Fujitsu's MONAKA is a 2 nm Arm CPU slated to be launched in 2027 and will focus majorly on energy efficient solution to meet the carbon neutrality goals for a green data centre super-computing facility.

Fujitsu designs its own microarchitecture which is a key factor for CPU performance and power efficiency. This technology made it possible for the supercomputer Fugaku to achieve the world's highest levels of performance and energy efficiency. Fujitsu's MONAKA is aligned to enable next gen AI application development ecosystem through high end energy efficient compute.

REFERENCE:

1. [Fujitsu leads development of energy-efficient CPUs and photonics smart NIC for next-generation green data centers under NEDO program : Fujitsu Global](#)
2. [FUJITSU-MONAKA](#)

Bio:

With a work experience of around 24 years that spans Industry, Academia and Research, Dr Priyanka Sharma, specializes in leading AI enabled system design, development and deployment using core technologies involving high performance computing, machine learning and deep learning.

Dr Priyanka is currently Director – Software Engineering at Fujitsu Research of India (FRIPL) and heading MONAKA R&D Unit (HPC-AI Lab). She is also the Vice Chairman (Technical) of IEEE Industrial Electronics, IEEE Industry Applications, and IEEE Power Electronics Society – Gujarat Section. She is an active member of various National Level Subject Expert committee (for Engineering and AI Projects) of some of the premier R&D project funding schemes of Department of Science and Technology under Ministry of Science and Technology.

Prior to joining Fujitsu Research of India (FRIPL), Priyanka was Vice President Projects – AI with Samyak and AI Advisor to UK and India based startups in the domain of AI, Deep Learning and Drug Discovery. She was also AI Advisor at CoE on AI, IT and Cyber Security at a National Defence University in India. She was NVIDIA Deep Learning Ambassador for around 5 years. Her academic affiliation includes Full Professorship with Computer Science and Engineering Department, Nirma University for over 7 years. She has published over 50 research papers in SCI and Scopus indexed International Journal, Books and Conferences. Priyanka is a passionate traveller and loves writing on life lessons through machine learning.