# FutureHorizons

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## **Wave Computing Acquires MIPS**

MADISON, Wis. — EE Times has learned that Wave Computing (Campbell, California), a startup focused on the development of AI systems using its massively parallel dataflow architecture, will announce later this week that it has acquired MIPS Technologies, a storied but beleaguered Silicon Valley company that developed MIPS processor architecture and related processing cores.

The move will allow Wave Computing to expand from AI training in data centers to AI inference for embedded systems.

EE Times called Wave Computing's CEO Derek Meyer, and asked him what has motivated the startup to make such a move.

#### **IBM Refines AI Efficiency In Visual Analysis**

MADISON, Wis. — Despite a slew of artificial intelligence processors poised to reach the market — each boasting its own "breakthrough" — myriad problems continue to dog today's AI community ranging from issues with the energy, speed, and size of AI hardware to AI algorithms that have yet to demonstrate improvements in robustness and performance.

In computer vision, the biggest challenge is how to "make visual analysis more efficient," Rogerio Feris, research manager for computer vision and multimedia at IBM Research, told EE Times.

To be clear, AI is still in an early phase. It needs fresh ideas, a long-term vision, and more heavy lifting in R&D by academia and research institutes.

#### **Fingerprint Sensor Sets the Beat**

A novel fingerprint sensor includes a heart rate detector to make it more secure, likely starting a trend, according to an analyst who conducted a teardown of it.

Fingerprint sensors are quickly becoming the standard for unlocking and securing mobile phones. Their convenience and speed make them preferred over passwords, facial recognition, retinal scanning or user-input patterns.

Common methods of defeating fingerprint sensors include creating a rubber mold of the finger, copying a fingerprint to a piece of tape or using the actual finger removed from the person. We recently discovered a combination fingerprint sensor and heart rate detector in a few smartphones that avoids these attacks.

## **Trump Told Apple iPhones Would be Exempt From Tariffs**

SAN FRANCISCO — The Trump Administration has told Apple CEO Tim Cook that it would not levy tariffs against iPhones made in China, according to a New York Times report that cites an anonymous source said to be familiar with the negotiations between the tech giant and the U.S. president.

Such a promise would be significant in light of recent moves by the Trump Administration that move the U.S. and China closer to an all-out trade war. Trump last week announced that the U.S. would indeed levy tariffs against some \$50 billion worth of goods made in China, many of which are high tech products and materials and components used in tech. China has vowed to retaliate in kind, placing tariffs on U.S. goods, most of which are agricultural and other food products.

#### New Memories Seek Embedded Use

Emerging memories likely will find high-volume markets in embedded applications replacing NOR flash for storing code in MCUs and ASICs.

"At some point the door is going to close on NOR because of scaling issues, and all MCU and ASIC makers and their logic foundries will need a new non-volatile memory technology for code storage--whether it will be at 40nm or 14nm may depend on the foundry's logic process," said Jim Handy, analyst at Objective Analysis, who will give a market overview in the emerging memory program at Semicon West.

The challenge is that until the new memory technologies reach volume production, they will be more expensive. MRAM has an advantage because Everspin has been selling standalone chips for temporary immediate storage, Handy said.