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First Bionic Chip Designed to Treat Alzheimer's

Alzheimer's is a neurodegenerative disease that involves a progressive death of neurons with cognitive, behavioral, and motor consequences; it is a bit like taking away the soul of the person affected, devastating not only for patients but also their families.

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A year after announcing its in-house designed AI accelerator chip, Amazon Web Services (AWS) is making instances based on its Inferentia chip available for customer workloads.

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TALK TO US



Qualcomm Roll out Processors Specifically Designed for 5G

MAUI — For the third year in a row, Qualcomm transported a worldwide group of press and analysts to an island in the middle of the Pacific for three days of sessions on the latest in 5G cellular technology and the company's latest Snapdragon processors.

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OmniVision Cuts LED Flicker in HDR

A vast number of things could blind a driver on the road. When exiting a tunnel with the sun low on the horizon, the sudden transition from dark to very bright can be dazzling. A machine vision unit fitted into a highly autonomous vehicle (Level 3+ or above) would struggle in the same situation.

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First Bionic Chip Designed To Treat Alzheimer's

Alzheimer's is a neurodegenerative disease that involves a progressive death of neurons with cognitive, behavioral, and motor consequences; it is a bit like taking away the soul of the person affected, devastating not only for patients but also their families. Alzheimer's disease remains difficult to treat, but researchers are exploring new nanotechnology solutions that might help improve the quality of life of those afflicted.

An international research team led by scientists from the British University of Bath in the U.K. has created the first artificial neurons in the laboratory, miniature devices designed to repair nerve circuits and restore lost functions. Scientists plan to use such bionic chips to treat both heart-related and neurodegenerative diseases.

AWS Rolls Out Inferentia Chip

A year after announcing its in-house designed AI accelerator chip, Amazon Web Services (AWS) is making instances based on its Inferentia chip available for customer workloads.

AWS' customers across a diverse set of industries are moving beyond the experimental stage with machine learning, and are now scaling up ML workloads. They are therefore ready for the increase in performance and efficiency Inferentia will bring, the company said.

Andy Jassy, CEO of AWS, pointed out in his keynote at AWS' Re:Invent conference last week that for machine learning systems at scale, 80-90% of the compute cost is in inference.

Toggle MRAM Prepares for 5G

TORONTO — Higher density MRAM's potential as an emerging memory — to replace incumbents such as DRAM and flash — often overshadows where it's already successfully supplanting established technologies in the form of Toggle MRAM.

For Everspin Technologies, Toggle MRAM's success is helping to power its ambitions in other product areas, and the company recently announced its new 32-Mb Toggle MRAM, which doubles the capacity of its current solution. It's designed to enable critical applications that need a higher density option, such as storing configurations, setup and data logging in embedded systems and Internet of things (IoT) devices, as well as anticipating device requirements driven by 5G networking, said Troy Winslow, Everspin vice president of global sales.

Qualcomm Roll out Processors Specifically Designed for 5G

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With 5G rollouts started and many more areas getting 5G in 2020, this was the event for the company to roll out the first application processors specifically designed for 5G – the flagship Snapdragon 865 (SD865) and the more highly integrated Snapdragon 765 (SD765).

Qualcomm is expecting big thing for 5G in 2020, because it took the unusual strategy of splitting the two Snapdragon 5G processors between both TSMC and Samsung Foundry – the SD865 is built in TSMC's 7NP process and the SD765 is in Samsung's 7nm EUV process. While using two foundries complicates circuit design sharing between the SD865 and SD765 teams, it's a hedge for Qualcomm to split the business between the two foundries to avoid capacity constraints.

OmniVision Cuts LED Flicker in HDR

The company will start sampling its new 8.3 megapixel automotive image sensors capable of mitigating LED flicker in the first quarter of 2020.

A vast number of things could blind a driver on the road. When exiting a tunnel with the sun low on the horizon, the sudden transition from dark to very bright can be dazzling. A machine vision unit fitted into a highly autonomous vehicle (Level 3+ or above) would struggle in the same situation. But it would also struggle in circumstances that humans can handle just fine, too. One of those is dealing with LED flickering.

Designed to pulse to control brightness and power, LEDs flicker because they are not always on. Celine Baron, OmniVision's staff automotive product manager, noted during an interview with EE Times that LEDs are everywhere, ranging from headlamps and traffic lights to road signs, billboards and bus displays. Given their ubiquity, it's hard to avoid LED flickering. It can be distracting enough to human eyes, but it could be fatal to an AV's machine vision. Human vision can compensate for flickering. AV machine vision can't.