VLSI for Communication and Machine Learning

3 credits (4 credit option available with a design project)
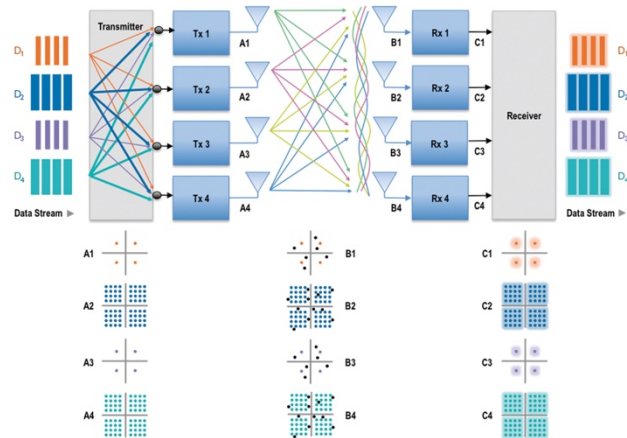**Fall 2019 - EECS 598 Section 006**
Instructor: Professor Hun-Seok Kim

The advance in very-large-scale integration (VLSI) technologies has enabled intelligent mobile internet-of-things (IoT) applications that are now integral parts of our daily lives. Recently emerging image/audio signal processing, machine learning, and wireless communication systems constantly impose new challenges on VLSI integrated circuit

Source: tradeshift blog

(IC) implementations. These implementations must satisfy stringent latency, throughput, and energy-efficiency constraints that are critical to ubiquitous IoT applications.

This course will survey methodologies to design energy-efficient and/or high-performance VLSI systems for the state-of-the-art wireless communication, machine learning, and signal processing systems. The primary focus of the course is on designing hardware-efficient algorithms and energy-aware VLSI IC architectures to deliver the performance and efficiency required by various signal processing and

Source: wirelessdesignmag.com

machine learning applications. The course will be a mix of lectures and student-led presentations/projects. The content will be suitable for senior undergraduates or graduate students interested in hardware-efficient algorithms and their VLSI implementations.

Questions: Please email Prof. Kim at hunseok@umich.edu