

از سری سخنرانی‌های گروه معماری کامپیوتر

GPGPUs, Challenges and Opportunities

Hodjat Asghari Esfeden

**Department of Computer Science & Engineering,
University Of California, Riverside, CA, USA**

Abstrac

Given the architecture of GPUs, such processors have a greater ability for processing tasks. However, having thread and memory divergence challenges disables the system from using such processors' full functionality.

Therefore, GPGPUs are known as double edged swords. Meaning that on one side such processors utilize parallel processing 10 times faster than a CPU, and on the other hand the aforementioned challenges affect this capability.

There are proposed techniques to overcome these challenges using **Architectures** or **Compilers** for utilization. In this talk, we will discuss some of these techniques, analyzing them, and evaluating the enhancement of warp scheduling in case of divergence.

Biography

Hodjat Asghari Esfeden received the B.Sc. Degree in computer engineering from the Department of Computer Engineering, Sharif University of Technology, Tehran, Iran, in 2015. He is currently working toward his Ph.D. Degree in computer science at University of California, Riverside, USA. His current research interests include GPGPU Architecture and Compiling, Embedded Systems, and Computer Architecture.

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