

Investigating the Micron Automata Processor for HEP Pattern Recognition Applications

Friday 30 September 2016 11:30 (22 minutes)

The Micron Automata Processor is a dedicated pattern matching engine that is based on a non-Von Neumann processor architecture, and was designed primarily to satisfy the growing needs of high-speed text-based pattern search applications. We investigate its suitability for HEP pattern recognition applications, using a sample track-confirmation trigger to demonstrate a proof-of-principle. We compare its performance, in this sample application, with that of other processor architectures, including general purpose CPUs, GPUs, and custom devices based on content-addressable memories.

Author: WANG, Michael (Fermi National Accelerator Lab. (US))

Presenter: WANG, Michael (Fermi National Accelerator Lab. (US))

Session Classification: B16-Online and offline tracking and vertexing

Track Classification: Online and offline tracking and vertexing