PARMA-DITAM Invited Talk

Building an open, safe, accessible AI & HPC ecosystem

Location: **online event**

Scheduled time: **14:00 – 15:00**

Speaker: Andrew Richards

CEO and co-founder of Codeplay, a pioneer in GPU acceleration, Andrew started his career writing video games in the days of 8-bit computers, progressing to write best-selling titles such as Pete Sampras Tennis and Total Drivin'.

Andrew researched and developed early GPU compiler technology, and founded Codeplay in 2002. Codeplay have been producing compilers for games consoles, special-purpose processors and GPUs since then.

Andrew chaired the SYCL standards group for its early years, which is now gaining rapid adoption, including now the C++ programming model for Intel's oneAPI.

Today, Codeplay is a world-leading specialist in heterogeneous computing technology, now working on extreme challenges from exascale to artificial intelligence and safety for self-driving cars.

Abstract

The world of AI & HPC is dominated by closed, proprietary software models. To get high performance today, systems need accelerators that have high levels of parallelism, but use closed programming models like CUDA.

How do we open this up? How do we make these models safe enough to drive a car? How do we get an industry to work together with industry standards? Andrew and Codeplay have been working on these challenges for years.

This talk will show the huge progress made today (SYCL, SPIR-V, oneAPI) and where we're going next.