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SORS: Enabling mixed-precision in applications: methodology and case studies

Abstract

Mixed-precision computing has the potential to significantly reduce the cost of exascale computations, but determining when and how to effectively implement it in our programs can be challenging. This talk will present a methodology for enabling mixed-precision with the help of computer arithmetic tools. By evaluating metrics across three dimensions: accuracy, time-to-solution, and energy-to-solution, the talk will illustrate how this methodology can be applied to real-world applications.

Short Bio

Yanxiang Chen is a Ph.D. student at the Department of Computing Science, Umeå University, Sweden. His PhD is in computing science with focusing on mixed-precision algorithmic solutions. Before his PhD, he worked as a research engineer in the EuroHPC JU Center of Excellence in Exascale CFD (CEEC) project.

Speakers

Speaker: Yanxiang Chen. Umeå University, Umeå, Sweden.
Host: Oriol Lehmkuhl. Senior Researcher, Large-scale Computational Fluid Dynamics, CASE, BSC.
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