SORS: EuroHPC AI in DAPHNE

Objectives

Abstract: DAPHNE (Integrated Data Analysis Pipelines for Large-Scale Data Management, HPC, and Machine Learning) project will be presented, followed by selected recent developments and opportunities with DAPHNE in EuroHPC deployments like Vega supercomputer and AI. HPC and AI will be presented and discussed for potential collaboration, including the container reuse for generative AI, autonomous machines, energy scheduling, and ecosystems. The leadership approach towards EuroHPC AI in DAPHNE will then connect these and conclude with take-aways from this presentation.

Short Bio: Assoc. Prof. Dr. Aleš Zamuda received his B.Sc., M.Sc., and Ph.D. degrees in computer science from University of Maribor, Slovenia, in 2006, 2008, and 2012, respectively. As an affiliate of Faculty of Electrical Engineering and Computer Science at the University of Maribor he is positioned within research group Computer Architecture and Languages Laboratory and programme-funded unit Computer Systems, Methodologies, and Intelligent Services, and project DAPHNE: Integrated Data Analysis Pipelines for Large-Scale Data Management, HPC, and Machine Learning. His areas of interest include differential evolution, multiobjective optimization, evolutionary robotics, artificial life, and cloud computing. He has written over 80 scientific papers and among them several journal papers ranked in first quarter of computer science category such as ESWA, INS, SWEVO, APEN, JoCS, Applied Soft Computing, and Information Sciences; and received several citations of his scientific works. He started programming in elementary school and since then won several national and international awards, such as Danubius Young Scientist at few years after his habilitation; from his dissertation, 2012 gold medal at international invention fair in Seoul; and international IEEE R8 SPC 2007 award for diploma work. His biography is selected in Marquis Who is Who in the World and he is an IEEE Senior Member, IEEE CIS member, and chaired several IEEE positions at chapter, section, and society level. He is also a regular reviewer for the best journals in computer science, like IEEE Transactions on Evolutionary Computation and more than 50 other prominent scientific journals. He is member of SLAIS (part of EurAI) and SLING (supporting EuroHPC Vega). He has been employed as an expert / evaluator by the European Commission for EU projects (Horizon 2020 Framework Programme (H2020) Excellent science; MSCA PF) and other research funding agencies (COST, SPIRIT, Mexico/Poland). He has also been employed at Technical University of Ostrava (IT4Innovations national supercomputing center) for three months and a month-long visiting researcher at Aberystwyth University and several times at University of Las Palmas de Gran Canaria, and conducted dozens other week-long visits at universities in across EU (Ghent University, University of Iceland, University of Alicante, Tomas Bata University in Zlín, University of Chemistry and Technology, Prague).

He has been a member of the program/technical committees of more than hundred international conferences and held over dozen editorial roles.

Speakers

Speaker: Aleš Zamuda, Faculty of Electrical Engineering and Computer Science at the University of Maribor, Slovenia
Host: Rosa Badia, Workflows and Distributed Computing Group Manager, CS, BSC

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