

Electrical Engineering and Computer Science Technical Seminar Series

Friday, August 30, 2019
12:00 - 1:20 PM in COB 263

Managing and Analyzing Simulation Data

Dr. Fabio Porto

Faculty Host: Florin Rusu

Abstract

The increasing processing power of HPC systems has enabled the development of realistic simulations of phenomena in different areas, such as oil and gas, engineering, medicine, and meteorology. This process involves huge amounts of data. During model tuning, a large parameter space is explored looking for initial conditions set-up. Conversely, as more accurate simulations are computed, a sheer volume of 3D output data is generated from hundreds to thousands of steps. In this talk, I will present the work we have been developing to manage numerical simulation data. Firstly, I will talk about Upsilon-DB, a probabilistic database management system that reflects the uncertainty of simulation data. Next, I will present SAVIME, an in-memory system for the analysis and visualization of simulation data. SAVIME aims at providing real-time follow-up of simulations fostering simulation steering.

For additional information contact Prof. Wan Du <wdu3@ucmerced.edu>

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Biography

Fabio Porto is a Senior Researcher at the National Laboratory of Scientific Computing (LNCC), in Brazil. He is the founder of the DEXL Laboratory, developing R&D activities in the context of scientific data analysis and management. He holds a PhD in Informatics from PUC-Rio, with sandwich at INRIA, in 2001, and a postdoc at Ecole Polytechnique Fédérale de Lausanne (EPFL). He has more than 80 research papers published in international conferences and scientific journals, including VLDB, SIGMOD, SSDBM, and ICDE. He was the General Chair of VLDB 2018 and SBBB 2015. Since 2018, he has been a member of the SBBB steering committee, and a member of SBC and ACM.

