SORS: Accurate Predictions for High-Performance Processors

Abstract

Prediction is a fundamental technique for designing high-performance computers. Prediction techniques are used nowadays for a large number of performance optimizations. This talk presents advanced mechanisms for (1) data prefetching with a focus on timeliness and accuracy and (2) memory dependence prediction by using the same history length for each dependence.

Short Bio

Alberto Ros is full professor in the Computer Engineering Department at the University of Murcia, Spain. Funded by the Spanish government to conduct the PhD studies he received the PhD in computer science

from the University of Murcia in 2009. He held postdoctoral positions at the Universitat Politècnica de València and Uppsala University. He received an European Research Council (ERC) Consolidator Grant in 2018 to improve the performance of multicore architectures, and an ERC Proof of Concept Grant in 2024. Working on cache coherence, memory hierarchy designs, memory consistency, and processor microarchitecture, he has co-authored more than 100 peer-reviewed articles. He has been inducted into the ISCA Hall of Fame and MICRO Hall of Fame. He is IEEE Senior member.

Speakers

Speaker: Alberto Ros. Full professor in the Computer Engineering Department at the University of Murcia, Spain.
Host: Miquel Moretó, Computer Sciences Department, BSC.
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