Exploring Hybrid Replacement Policies for Caches

In manycore systems, caches are used to overcome the memory wall. Caches require replacement decisions owing to limited capacity. The eviction decision greatly impacts system traffic and thereby the application execution time. This emphasizes the need to explore smarter/better replacement policies.

Towards this goal you’ll complete the following tasks:
• Investigate the source code of the Sniper simulator
• Analyze the cache replacement policies of Sniper
• Integrate alternative hybrid replacement policies into Sniper
• Evaluate the performance of various benchmarks for different replacement schemes and architecture parameters

Prerequisites

To successfully complete this project, you should already have the following skills and experiences.
• Good understanding of MPSoCs and Cache Coherence
• Good understanding of C++ and Python
• Self-motivated and structured work style

Contact

Akshay Srivatsa
Institute for Integrated Systems
Arcisstraße 21, 80333 Munich
Tel. +49 89 289 22963
srivatsa.akshay@tum.de
www.lis.ei.tum.de

Advisors

Srivatsa Akshay Sateesh