SORS/WomenInBSC: Systems Support for Managing Complex Memory Fabrics

Abstract: The continued need for scaling of performance, capacity, and cost efficiency for data-intensive applications, is giving rise to new system designs combining heterogeneous memory components, accelerators and near memory processing, disaggregation, and new high-speed and programmable interconnects. Maximizing the benefits of the resulting complex memory fabrics requires new methods for coordinating decisions concerning data placement, movement, accesses and transformations, across different system components and across the entire stack. This talk will present several promising directions to tackle this complexity and benefit from the capabilities provided by the emerging heterogeneous substrate, and will highlight select results from our group's recent research in this space.

Short biography:

Ada Gavrilovska is Associate Professor in the School of Computer Science at Georgia Tech. Her research is focused on designing systems for emerging technologies, and she develops new systems software solutions in response to new hardware, applications, and use cases. Gavrilovska's research is supported by the NSF, the Department of Energy, the SRC/DARPA JUMP programs, and by multiple industry awards. She has served as program or general chair for SOCC'22, HPDC'22, USENIX ATC'20, as an Associate Editor for the IEEE Transactions on Cloud Computing, and will be a program co-chair for OSDI in 2024. She currently co-leads the Systems Software theme in the Center for Processing with Intelligent Memory and Storage (PRISM).

Speakers

Speaker: Ada Gavrilovska, Associate Professor in the School of Computer Science at Georgia Tech.
Host: Antonio Peña, Group Manager, Accelerators and Communications for HPC, Leading Researcher, CS, BSC.

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