

Research Interests

- Scalable compiler directed workload analysis
- Hardware software co-design for specialized architectures
- Core micro-architecture with a focus on the cache memory hierarchy

Selected Publications

- 2016 **ChainSaw : Creating Von-Neumann Accelerators with Fused Instruction Chains**, Amirali Sharifian, Snehasish Kumar, Apala Guha, and Arrvinth Shriraman, In *Proceedings of the 49th Annual IEEE/ACM International Symposium on Microarchitecture*, MICRO 2016.
- SPEC-AX : Extracting Accelerator Benchmarks from Microprocessor Benchmarks**, Snehasish Kumar, Nick Sumner, and Arrvinth Shriraman, In *Workload Characterization (IISWC), 2016 IEEE International Symposium on*, IISWC 2016.
- 2015 **Fusion: Design Tradeoffs in Coherent Cache Hierarchies for Accelerators**, Snehasish Kumar, Arrvinth Shriraman, and Naveen Vedula, In *Proceedings of the 42Nd Annual International Symposium on Computer Architecture*, ISCA '15, pages 733–745.
- 2013 **Protozoa : Adaptive Granularity Cache Coherence**, Hongzhou Zhao, Arrvinth Shriraman, Snehasish Kumar, and Sandhya Dwarkadas, In *Proceedings of the 40th Annual International Symposium on Computer Architecture*, ISCA 2013.
- 2012 **Amoeba-Cache : Adaptive Blocks for Eliminating Waste in the Memory Hierarchy**, Snehasish Kumar, Hongzhou Zhao, Arrvinth Shriraman, Eric Matthews, Sandhya Dwarkadas, and Lesley Shannon, In *Proceedings of the 45th Annual IEEE/ACM International Symposium on Microarchitecture*, MICRO 2012.

Academic

- 05/13 – 11/16 **PhD in Computing Science**, Simon Fraser University, British Columbia, Canada, 4.0/4.0.
Publications : HPCA'17, IISWC'16, MICRO'16, ICS'16, ISCA'15, ICS'15
- 01/11 – 04/13 **MSc in Computing Science**, Simon Fraser University, British Columbia, Canada, 3.8/4.0.
Publications : ISCA'13, MICRO'12
- 08/06 – 04/10 **B. Tech in Computer Engineering**, Biju Patnaik University of Technology, Orissa, India, 8.3/10.0.

Awards

- 08/16 President's PhD Scholarship, Simon Fraser University
- '16, '14, '12 Graduate Fellowship, Simon Fraser University
- 01/14 Special Graduate Entrance Scholarship, Simon Fraser University

Professional Experience

- 06/13 – 12/13 Research Intern : Systems Technology and Architecture
IBM, T.J. Watson Research Centre

Skills

- Languages C++11, C, Python
- Frameworks LLVM Compiler Infrastructure, Intel PIN
- Simulators Multifacet GEMS (Ruby), MacSim