

## ALEN K SABU

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### EDUCATION

**National University of Singapore**, Singapore.

- Doctor of Philosophy (*Ph.D.*) in Computer Science *Jan 2019 – May 2024 (Expected)*
  - Advisor: Dr. Trevor E. Carlson
  - Areas: Processor architecture, workload analysis and characterization, performance modeling and measurements, simulation infrastructure, operating system design

**Birla Institute of Technology & Science – Pilani**, Rajasthan, India.

- Master of Engineering (*M.E.*) in Computer Science *Aug 2014 – May 2016*
  - Thesis: Performance improvement of multicore scheduler in real-time mixed criticality systems
  - Adviser: Dr. Biju K. Raveendran
  - Selected coursework: Advanced Computer Architecture, Advanced Algorithms and Complexity, Advanced Operating Systems, Cloud Computing, Data Mining, Real-time Systems.

**University of Kerala**, Thiruvananthapuram, Kerala, India.

- Bachelor of Technology (*B.Tech.*) in Computer Science and Engineering *Aug 2009 – Dec 2013*
  - Thesis: Online handwritten character recognition using Kohonen neural networks

### PUBLICATIONS

#### CONFERENCES & JOURNALS

- [1] Alen Sabu, Harish Patil, Wim Heirman, and Trevor E. Carlson, “LoopPoint: Checkpoint-driven Sampled Simulation for Multi-threaded Applications,” to appear in *The 28<sup>th</sup> IEEE International Symposium on High-Performance Computer Architecture (HPCA)*, Apr 2022
- [2] Harish Patil, Alexander Isaev, Wim Heirman, Alen Sabu, Ali Hajiabadi, and Trevor E. Carlson, “ELFies: Executable Region Checkpoints for Performance Analysis and Simulation,” in *The 19<sup>th</sup> International Symposium on Code Generation and Optimization (CGO)*, Mar 2021
- [3] Alen Sabu, Biju Raveendran, and Rituparna Ghosh, “SMILEY: A Mixed-Criticality Real-Time Task Scheduler for Multicore Systems,” in *The 22<sup>nd</sup> International Symposium on Distributed Simulation and Real Time Applications*, Oct 2018 (*Nominated best paper*)

#### WORKSHOPS & POSTERS

- [1] Alen Sabu, Harish Patil, Wim Heirman, Alexander Isaev, and Trevor E. Carlson, “Approaching a High-Performance, General-Purpose Multi-Threaded Sampling Methodology,” in *The 2<sup>nd</sup> Young Architect Workshop (YArch)*, Mar 2020

#### TUTORIALS & TALKS

- [1] “LoopPoint and ELFies: Tools and Techniques to Accelerate Architecture Simulations of Complex Multi-threaded Applications using Checkpointing,”
  - The 49<sup>th</sup> International Symposium on Computer Architecture (ISCA), Jun 2022
  - International Symposium on Performance Analysis of Systems & Software (ISPASS), May 2022
- [2] “LoopPoint: Checkpoint-Driven Sampled Simulation for Multi-threaded Applications,”
  - VSSAD Seminar, Intel Corporation, Mar 2022

### INDUSTRY EXPERIENCE

**NetApp**, Bengaluru, India

- Member Technical Staff II *Jul 2016 – Nov 2018*
  - Performance modeling of data storage devices, empirical analysis of storage protocols and workloads

### SKILLS

C, C++, Python, Bash, L<sup>A</sup>T<sub>E</sub>X, Git, GDB, Intel Pin, Sniper x86 simulator

### AWARDS

- Travel grant for the 2<sup>nd</sup> Young Architect Workshop at ASPLOS’20, Switzerland
- NUS Graduate Research Scholarship, National University of Singapore *Jan 2019 – Till date*
- BITS Higher Degree Scholarship, Birla Institute of Technology & Science, Pilani *Aug 2014 – May 2016*