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 characterization, dynamic program analysis, 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] <u>Alen Sabu</u>, Harish Patil, Wim Heirman, and Trevor E. Carlson, "LoopPoint: Checkpoint-driven Sampled Simulation for Multi-threaded Applications," in *The 28th IEEE International Symposium on High-Performance Computer Architecture (HPCA)*, *Apr 2022*

[2] Harish Patil, Alexander Isaev, Wim Heirman, <u>Alen Sabu</u>, Ali Hajiabadi, and Trevor E. Carlson, "ELFies: Executable Region Checkpoints for Performance Analysis and Simulation," in *The 19th International Symposium on Code Generation and Optimization (CGO)*, *Mar 2021*

[3] <u>Alen Sabu</u>, Biju Raveendran, and Rituparna Ghosh, "SMILEY: A Mixed-Criticality Real-Time Task Scheduler for Multicore Systems," in *The 22nd International Symposium on Distributed Simulation and Real Time Applications*, *Oct 2018* (*Nominated best paper*)

WORKSHOPS & POSTERS

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

TUTORIALS & TALKS

[1] "LoopPoint Tools: Sampled Simulation of Complex Multi-threaded Workloads using Sniper and gem5"
  - The 29th International Symposium on High-Performance Computer Architecture (HPCA), *Feb 2023*

[2] "LoopPoint and ELFies: Tools and Techniques to Accelerate Architecture Simulations of Complex Multi-threaded Applications using Checkpointing"
  - The 49th International Symposium on Computer Architecture (ISCA), *Jun 2022*
  - International Symposium on Performance Analysis of Systems & Software (ISPASS), *May 2022*

[3] "LoopPoint: Checkpoint-Driven Sampled Simulation for Multi-threaded Applications"
  - VSSAD Seminar, Intel Corporation, *Mar 2022*

INDUSTRY EXPERIENCE

Intel Corporation, Massachusetts, USA
- Research Intern   *Jul 2022 – Dec 2022*
  - Performance analysis, sampling, and simulation of heterogeneous cross-architecture workloads

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, LaTeX, Git, Docker, GDB, Intel Pin, Intel GTPin, Sniper x86 simulator

AWARDS

- Research Achievement Award 2021/2022 from School of Computing, National University of Singapore
- Travel grant for the 49th International Symposium on Computer Architecture (ISCA'22), USA
- Travel grant for the 2nd 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*