

ALEN K SABU

COM2-B1-03,
School of Computing,
National University of Singapore,
Singapore - 117417

✉ alen@u.nus.edu • ☎ +65 98998744 • 📧 alenks • 🌐 alenks • 📧 alen.sabu • 🐦 alen_k_s

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, program analysis, performance modeling and measurements, simulation infrastructure, workload characterization, 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 28th 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 19th 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 22nd 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 2nd 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 49th 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*

SKILLS

C, C++, Python, Bash, \LaTeX , Git, GDB, Intel Pin, Sniper x86 simulator

AWARDS

- 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*