

Sunimal Rathnayake, PhD

RESEARCH

JANUARY 2021 – PRESENT

University of Moratuwa

Senior Lecturer

- Leads undergraduate research projects in the broader domain of cloud computing and systems including investigating the dynamics between the cost, time and the performance of applications with a special focus on serverless (FaaS) architectures.
- Supervises masters degree candidates' research projects in cloud computing and parallel computing domain.
- Conducts exploratory research on self-healing architectures applicable to IoT and Edge computing contexts.

JANUARY 2015 – NOVEMBER 2020

National University of Singapore

PhD Candidate

- **Thesis: Understanding the Cost of Executing Applications on the Cloud** – In this thesis we focus on different aspects that affect cost of application execution on the cloud and their trade-offs from a user's perspective. We employ analytical modeling as a technique and propose approaches for balancing the trade-off and optimizing cost of execution on cloud. (Adviser: Prof. Teo Yong Meng)

APRIL 2014 – DECEMBER 2014

University of Moratuwa, Sri Lanka

Research Assistant

- **Detection of false sharing using machine learning** – Deploying machine learning techniques detecting bugs high performance parallel applications. (Advisors: Prof. Sanath Jayasena, University of Moratuwa, Sri Lanka and Prof. Saman Amarasinghe, MIT, USA)

TEACHING

JANUARY 2021 – PRESENT

University of Moratuwa, Sri Lanka

Senior Lecturer

Offering computer systems and security related undergraduate and postgraduate courses including Advanced Computer Architecture, Computer Networks, Network Security, Cloud Computing, and Fault Tolerant Computing.

AUGUST 2015 – DECEMBER 2020

National University of Singapore

Teaching Assistant

Assisted in teaching computer systems related undergraduate and postgraduate courses including Operating Systems, Cloud Computing, Performance Analysis as well as basic programming courses.

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Sri Lanka

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EDUCATION

NOV 2020 **PhD in Computer Science**

National University of Singapore

APR 2014 **BSc Engineering (Honours)**

Computer Science & Engineering

University of Moratuwa, Sri Lanka

SELECTED PUBLICATIONS

S. Rathnayake et al. CELIA: Cost-time Performance of Elastic Applications on the Cloud. In Proceedings of ICCP, Bristol, UK, 2017, IEEE.

S. Rathnayake et al. Characterizing the Cost-Accuracy Performance of Cloud Applications. 49th ICCP: Workshops, Edmanton, Canada, 2020, ACM.

S. Rathnayake et al. Cost-time Performance of Scaling Applications on the Cloud. In Proceedings of CLOUDCOM, Nicosia, Cyprus, 2018, IEEE.

S. Rathnayake et al. Detection of false sharing using machine learning. In Proceedings of SC, CO, USA, 2013, ACM.

OTHER EXPERIENCES AND AWARDS

- Google Summer of Code intern at Jboss - 2012
- Associate Software Engineer (intern) at Zone24x7 Pvt Ltd, Sri Lanka - 2012
- Speaker at FOSSASIA Conference, Cambodia - 2014
- Speaker at NUS-HCMUT Joint Workshop, Ho-Chi-Minh City, Vietnam - 2017
- Lead Organizer - IESL RoboGames 2011 - Robotics competition by Institution of Engineers Sri Lanka
- Student Representative at University of Moratuwa - 2012-2014
- NUS Research Scholarship - 2015 - 2018
- NUS Scholarship to participate in South Asia Workshop on Research Frontiers - 2014
- ACM Student Volunteer Scholarship for Supercomputing(SC) conference in 2014, 2015
- SC22 Conference organizing committee member (Inclusivity Committee) - 2022

REFEREES

Will be provided upon request.