

BUDVIN EDIPPULIARACHCHI

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EDUCATION

University of Moratuwa, Sri Lanka

2018 - 2022

B.Sc. Engineering (Hons) - Specialized in Computer Science Engineering

CGPA : 4.12/4.2 [equivalently 3.97/4.0]

Ranked 1st among 128 students

Dean's Honors List in all semesters 1-8

The Cornell, Maryland, Max Planck Pre-doctoral Research School 2022 ↗

August 2022

August 1-6, 2022, Saarbrücken, Germany.

Selected to be in 80 participants out of 400+ applicants. A summer school with a week of lectures and panel sessions with researchers and faculty to get in touch with latest research trends and grad school application process.

Royal College, Colombo 07, Sri Lanka

2014 - 2016

GCE Advanced Level - Physical Science Stream

Distinction passes for all subjects

Ranked 41 out of 28000+

RESEARCH INTERESTS

My primary research is in the intersection of scientific computations on distributed systems and graph decomposition. I am interested in utilizing graph algorithms to optimize computation and communication costs in scientific computations. I am also interested in building compilers for Domain Specific Languages for Partial Differential Equation solvers.

RESEARCH EXPERIENCE

Accelerating k-mer Counting in a Commodity Cluster Environment

2021 - 2022

- Supervisors : Prof. Sanath Jayasena, Gunavaran Brihadiswaran
- Research to explore the ability to utilize a commodity computer cluster to efficiently perform K-mer counting. Research is mainly based on searching for optimization strategies with MPI framework to obtain performance gains which can be scaled for a distributed environment.
- Technologies: MPI, C++

Software Profiling of ALICE O2

2022

- Supervisors : Dr. Latchezar Betev, Prof. Indika Perera, Dr. Gayashan Amarasinghe
- Profiling the new software suite ALICE O2 developed by CERN for their run 3. Research involves executing sample workflows, profiling them with memory and CPU profiling tools to identify potential bottlenecks and improvements to efficiently utilize the ALICE grid infrastructure.
- Technologies/Tools: C++, Perf, Intel Vtune

WORK EXPERIENCE

Expert Intelligence

2023

Software Engineer

Cloud infrastructure automation and full stack development.

IXD Labs

2022 - 2023

Founding member & DevOps Consultant

Backend development and cloud infrastructure management for web-based products and services.

6 month software engineering internship covering AWS services, event driven software design, multi-tenant architecture, real-time data streaming, performance optimization in web apps and 3D animations with vector mathematics.

TEACHING EXPERIENCE

University of Moratuwa - Dept. of Computer Science Engineering
Teaching Assistant

2021 - 2023

Modules : CS3062-Theory of Computing, CS2022-Data Structures and Algorithms, CS1033-Programming Fundamentals

Preparing assignments, weekly quizzes and assisting with weekly practicals and tutorials. Grading assignments and exams. Assist in conducting semester exams.

PUBLICATIONS

- **Edippuliarachchi B.**, Damika Gamlath, Ruchin Amaratunga, Gunavaran Brihadiswaran, and Sanath Jayasena. 2022. Quill: A Memory Efficient k-mer Counting and k-mer Querying Tool for Commodity Clusters. In Proceedings of the 14th International Conference on Bioinformatics and Biomedical Technology (ICBBT '22). <https://doi.org/10.1145/3543377.3543389>

ACHIEVEMENTS & AWARDS

Gold Medal - Dept. of Computer Science and Engineering, Univ. of Moratuwa 2022
· Awarded for achieving the best overall GPA for computer science specialization.

Champions - Aces Coders v8.0 2020
· One of the largest competitive programming competitions in Sri Lanka which is organized by the University of Peradeniya.

Top 100 - IEEEExtreme 2021, 2020
· IEEEExtreme 14.0 (2021) - Global Rank 71st
· IEEEExtreme 13.0 (2020) - Global Rank 92nd

Champions - UoJ Coders 2019
· 12-hr competitive programming competition organized by the University of Jaffna.

1st Runners Up - RealHack 2019
· An overnight hackathon preceded by a competitive programming round, organized by the University of Kelaniya.

Finalists - Robofest 2019, 2018
· A robotic competition organized by SLIIT to build the fastest robot to solve the classic micromouse challenge.

Finalists - Sri Lanka Robotics Competition 2018
· The largest robotics competition in Sri Lanka organized by the University of Moratuwa.

Mahapola Higher Education Merit Scholarship - 2018
· Awarded for outstanding performance in GCE A/L examination.

Bronze Medalist - Sri Lanka Mathematics Olympiad (Junior) 2008
· Preliminary mathematics olympiad round held in Sri Lanka to qualify for the International Mathematics Olympiad competition.

SKILLS

Technical Fields	Algorithms, HPC, Distributed and Parallel Computing, Backend Development, AWS Cloud Native Development
Programming Languages	C, C++, Python, Java, SQL, JavaScript
Cloud Technologies	AWS
Languages	English (professional proficiency, TOEFL iBT score: 110/120), Sinhala (native proficiency)