Adhitha Dias

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Objective

For summer internship positions, preferably research-oriented, in software engineering, compilers, programming languages or high-performance computing.

Education

Purdue University, West Lafayette, IN — Jan 2021 - Dec 2025 (expected)
PhD in Electrical and Computer Engineering
Thesis: Sparse Tensor Algebra Compiler Optimizations | Advised by: Prof. Milind Kulkarni
M.S. in Electrical and Computer Engineering (expected in May 2023 | GPA 4.00/4.00)

University of Moratuwa, Sri Lanka — Sep 2014 - Dec 2018
B.Sc. Engineering (Hons) in Electronic and Telecommunication Engineering (GPA 4.05/4.20)

Publications

- **Adhitha Dias**, Kirshanthan Sundararajah, Charitha Saumya and Milind Kulkarni "SparseLNR: Accelerating Sparse Tensor Computations Using Loop Nest Restructuring" in *International Conference on Supercomputing*, ICS 2022.
  🏆 **Best Paper Award** `[ACM DL]`.
- **Adhitha Dias**, Hasitha Prashan, Yasod Rasanka, Menusha Munasinghe and Ranga Rodrigo and Peshala Jayasekara "Deep Learning of Augmented Reality Based Human Interactions for Automating a Robot Team" in *International Conference on Control, Automation, and Robotics*, ICCAR 2020. `[IEEE Xplore]`.

Experience

Graduate Research Assistant, Purdue University, United States — Jan 2021 - Present
- Introduced and optimized kernel fusion for sparse tensor algebra computations.
- Performed individual research on sparse tensor kernel optimizations.
- Designed and Implemented an auto-scheduler for sparse tensor kernel fusion.
- Achieved speedups of 0.86-1997x compared to the Tensor Algebra Compiler (TACO) baseline.

Software Engineer, Sysco LABS, Sri Lanka (Branch of Sysco Corporation, Houston, TX) — Feb 2019 - Dec 2020
- Performed various tasks related to frontend/backend development, database, security, and distributed systems.
- Implemented the most complex sections in a multi-location graph-based menu management system for chains of restaurants.
- Designed and developed first cut versions for merchandising user management, authorization and authentication.
- Engaged in a variety of tasks in design, development, deployment, quality assurance, and customer support.

Research Intern, School of Information Systems, SMU, Singapore — June 2016 - Dec 2016
- Carried out individual research in indoor localization using wifi packet-based angle of arrival techniques.
- Developed algorithms to automate checkpoint acquisition for a video-based leader-follower indoor navigation system using augmented reality.

Skills

- Programming Languages: Java, C/C++, Python, JavaScript, Scala, Coq, MATLAB, Bash, and CUDA.
- Operating Systems: Unix/Linux, and ROS.
- Other: OpenMP, MPI, PyTorch, TensorFlow, Docker, AWS, GEM5, SQL, CouchDB, Neo4J, Janus Graph, Spring Boot, React/Redux, AWS, SSO, CMake, Android, OpenCV, Graylog, Symfony, and Redis

Achievements

- *The Best Paper Award* At the International Conference on Supercomputing 2022.
- ACM Grants to Attend *Programming Language Design and Implementation (PLDI) Conferences 2021 and 2022.*
- *Dean's List Award* Included in the Dean's List in all 8 semesters for obtaining a high GPA during Undergrad.
- Ranked 1^{st} (out of 32*k* students) in Sri Lanka in Math Stream at the University Entrance Examination 2013.
- Placed 4^{th} in *Sri Lanka Mathematics Olympiad Competition 2013.*

Professional Qualifications/Activities

- **Member of Artifact Evaluation Committee (AEC)**, PPoPP 2023. — Nov 2022 - Nov 2022
- **Seminar Coordinator**, Purdue Programming Languages and Systems Research Group (PurPL). — Aug 2022 - Jul 2023
- **President**, Sri Lankan Student Association at Purdue (SLAP). — Aug 2022 - Jul 2023
- **Attendee**, Programming Languages Mentoring Workshop (PLMW) at PLDI and OOPSLA. June 2021, Nov 2021, June 2022
- **Diploma in Management Accounting**, CIMA, UK. — Jan 2014 - Dec 2015
- **Master Java Developer**, Institute of Java and Software Engineering (IJSE), Sri Lanka. — Aug 2013 - May 2014