Aditya K Kamath

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ACADEMIC QUALIFICATIONS

Year	Degree	Institute, City
2021 – Now	**Ph.D.** in Computer Science	University of Washington, Seattle
2015 – 2019	**B. Tech.** in Computer Science	National Institute of Technology Karnataka, Surathkal

PROFESSIONAL EXPERIENCE

Graduate Research Assistant at University of Washington (September 2021 – Current)

- Part of the Computer Systems Lab.
- Advised by Professor Simon Peter.
- Working on **reducing memory movement** in contemporary applications.

GPU-Centric Collectives Distributed Systems Research Intern at AMD Research (June – September 2022)

- Worked on improving **GPU-initiated collective communication**.
- Improved ROC_SHMEM's **all-to-all** communication collective using **CUDA/HIP**.
- Worked with the parallel and distributed programming team.

Research Assistant at Indian Institute of Science (June 2019 – Aug 2021)

- Worked on enhancing **race detection** in **GPUs**. **[ISCA '20, SOSP '21]**
- Worked on application of **NVM** in parallel architectures. **[ASPLOS '22, '23]**
- Was part of the **Computer Systems Lab (CSL)**.
- Worked under the guidance of **Professor Arkaprava Basu**.

Software Engineer Intern at Microsoft (May – July 2018)

- Was part of the Search Technology Centre India team.
- Worked on an application for furniture shopping using Augmented Reality.
- Had voice controls, search, and shopping cart functionality.

NOTABLE PUBLICATIONS

1. S. Pandey*, **A. K. Kamath***, A. Basu. "Scoped Buffered Persistency Model for GPUs", *Proceedings of 28th ACM International Conference on Architectural Support for Programming Languages and Operating Systems* ***(ASPLOS '23)*** [Paper] [Video]
2. S. Pandey*, **A. K. Kamath***, A. Basu. "GPM: Leveraging Persistent Memory from a GPU", *Proceedings of 27th ACM International Conference on Architectural Support for Programming Languages and Operating Systems* ***(ASPLOS '22)*** [Paper] [Video]
3. **A. K. Kamath** and A. Basu. "iGUARD: In-GPU Advanced Race Detection", *Proceedings of ACM SIGOPS 28th Symposium on Operating Systems Principles* ***(SOSP '21)*** [Paper] [Video]
4. **A. K. Kamath***, A. A. George*, A. Basu. "ScoRD: A Scoped Race Detector for GPUs**"**, *Proceedings of 47th IEEE/ACM International Symposium on Computer Architecture* ***(ISCA '20)*** [Paper] [Video]

*Authors contributed equally

TEACHING EXPERIENCE

Undergraduate Teaching Assistant at NITK Surathkal (2018 - 2019)

- Taught a lesson on the functioning of a cache and modern cache replacement policies.
- Taught a lesson on Persistent Memory and possible future uses.
- Taught a lesson on importance of simulation in systems research, and how to use Intel PIN tool for tracing.
- Designed a project for students to create a working cache simulator.

VOLUNTEER SERVICE

- **Grad Admission Reader** at **University of Washington**: Reviewed applications of graduate school applicants.
- **Pre-Application Mentorship Program (2022, 2023)** at **University of Washington**: Guided students from historically marginalized groups through the graduate application process, revising their SOP and resume.
- **Head Placement Coordinator** at **NITK**: Responsible for directing the entire NITK campus hiring process for 2019. Managed dozens of Placement Coordinators and coordinated with HRs of hundreds of companies.
- **Co-Head** of **Algorithms Group** of Web Enthusiasts' Club at **NITK**: Organised competitive coding events in college. Gave talks on the basics of algorithms and optimisations.

TECHNICAL SKILLS

- Programming Languages: C, C++, CUDA, Python
- Simulator Experience: GEM5, GPGPU-Sim, SST, ns-3, ChampSim
- Relevant Courses: Computer Organization and Architecture, High Performance Computing, Heterogeneous Parallel Computing, Data Structures and Algorithms, Operating Systems