Soham Bagchi

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Career Objective

Guide cutting-edge research and innovation in Computer Systems as Teaching and Research Faculty.

Projects

DISTRIBUTED ORCHESTRATION | Ongoing | Kubernetes, CXL, etcd
➜ Exploring shared-memory control-plane algorithms for containerized and serverless workloads

WRITE-OPTIMIZED DISTRIBUTED DATABASE | CS6530 | Odyssey, RDMA, SplinterDB
➜ Analyzing the effects of write-optimized data-stores on highly consistent fault-tolerant replication protocols

DISTRIBUTED BUILD SYSTEMS | Make, Bazel, Maven, Ant, Shake
➜ Optimizing build systems using remote dependency servers

S•V•N | C, C++, Sniper, VANS, NVmain
➜ A memory architecture simulation workflow that saves simulation time and increases reusability of simulation data

Experience

THE UNIVERSITY OF UTAH | PhD Student
August 2023 - Present | **Salt Lake City, Utah**

➜ **Under Professor Vijay Nagarajan**
➜ Exploring shared-memory abstractions for fault-tolerant orchestration for containerized and serverless workloads

ASHOKA UNIVERSITY | Research Intern
June 2021 - August 2022 | **Sonipat, Haryana**

➜ **With Professor Manu Awasthi**
➜ Worked with SniperSim, VANS and NVMain to analyze memory accesses for file-metadata lookups in order to design optimizations for non-volatile memory systems.

ASHOKA UNIVERSITY | Software Developer Intern
Sonipat, Haryana

➜ **HPC** | **April 2022 - Current**
Part of a team to service and maintain Ashoka University's High Perfomance Compute Cluster.

Positions

2023-24	Vice-President, GradSAC, Kahlert School of Computing
2021-22	President, The Computer Science Society, Ashoka University
2021-22	Member, Women in Computing Society, Ashoka University
2020-21	Head, Development Wing, The Computer Science Society, Ashoka University
2020-22	Marketing Team Head, RedBrick Hacks, Ashoka University
2017-19	Head of Theatre Society, The Shri Ram School

Awards

July 2023	Teaching Assistant Excellence Award
July 2023	Best Capstone Project Award
July 2022	Research Excellence Award
July 2021	Teaching Assistant Excellence Award
Semester 2-6	Dean's List

Education

THE UNIVERSITY OF UTAH
PhD in Computer Science
Aug '23 - Present | **SLC, Utah**

ASHOKA UNIVERSITY
Bachelor's in Computer Science
Aug '19 - July '23 | **Sonipat, Haryana**
UG GPA: 3.83 / 4.0
ASP GPA: 3.71 / 4.0

THE SHRI RAM SCHOOL
ISC / ICSE
Grad. May '19 | **Gurgaon, Haryana**
ICSE: 95.0%
ISC: 90.25%

Coursework

PHD
Comp Arch. • Adv. DB Systems
UNDERGRADUATE
Algo Design and Analysis • Distributed Network Algos • Computer Networks • Computer Organization and Systems • OS • PLDI • Data Mining and Data Warehousing • DBMS • Hardware-based Memory Encryption (ISM) • Computing in the Cloud • **Teaching Asst.** Intro to Comp. Programming • Operating Systems

Skills

PROGRAMMING

Confident:
Python (multiprocessing, threading) • C++ • C • Javascript • Shell • Git • LaTeX

Familiar:
Go • Java • R • SQL