

Sourav Chakraborty

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EXPERIENCE

NVIDIA Networking, HPC Middleware Developer

2021 - PRESENT

Design offloaded collectives for NVIDIA DPUs

Design features for improving performance of traditional HPC applications and AI frameworks

Advanced Micro Devices (AMD), Sr. Software Engineer

2019 - 2021

Lead UCX and MPI development efforts for AMD GPUs

Identify and contribute support for AMD GPUs to relevant open source software ecosystems (RDMA, MPI Benchmarks, etc.)

Helped secure \$1M+ deal by analyzing and solving customer need

The Ohio State University, Research Assistant

2013-2019

Develop scalable and adaptive communication runtimes for large scale HPC systems with thousands of nodes

Design intra-node and inter-node communication protocols and collective algorithms for MPI and OpenSHMEM

Optimize MPI library for cloud environments (AWS and Azure)

Lawrence Livermore National Lab, Research Intern

2015

Develop fault-tolerant MPI libraries with SLURM

Yahoo! Inc, Software Development Engineer I-II

2011-2013

Develop web-service APIs for serving ~1Billion user profiles to high-traffic pages including Yahoo! Frontpage

Lead migration of 500M FB profiles to Yahoo! NoSQL database

EDUCATION

The Ohio State University, M.S., Ph.D. (Computer Science)

2013-2019

Jadavpur University, B.E. (Information Technology)

2007-2011

TECHNOLOGIES

UCX, GPUDirect RDMA, InfiniBand, Omni-Path, MPI, SHMEM, XPMEM, SHARP, RCCL/NCCL, SLURM

PUBLICATIONS

20+ peer-reviewed papers in journals and conferences (see website for details)

Patent: Peer-to-peer architecture for web traffic management (US2014,0012906A1)

AWARDS

Best Graduate Student Research Award, OSU-CSE 2018

ACM Student Research Award at SuperComputing 2016

Several best paper/poster awards and nominations at SC, IPDPS, ISC, and Cluster

COMMUNITY

Represented OSU in MPI Forum standardization effort

Presented in MVAPICH, UCX, and SLURM user group meetings