Sagnik Dey

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Academic Qualifications

Year	Degree/Certificate	Institute	GPA
2022-Present	M.S in **Computer Science**	**Purdue University**, West Lafayette	3.88/4
2017-2021	B.S in **Mathematics**	**Indian Institute of Technology**, Kanpur	8.6/10

Scholastic Achievements

- Graduated my bachelor's degree with **distinction**.
- Scored **332** in the **GRE** with a perfect score of **170** in quantitative reasoning.

Preprints

- **Predictive data race detection for GPUs** [arXiv] November'21

Work Experience

- **Google LLC, Software Engineering Intern** (*May'23 - Aug'23*)
  - Creating a tool for re-targeting **accelerator** jobs to different accelerator versions.
  - Working on faithful recompilation of previously compiled **TensorFlow** graphs.
  - Set up automated **integration testing** of an automatic resource quota allocation service.
- **Accenture Solutions Pvt. Ltd., Advanced Application Engineering Analyst** (*Mar'22 - May'22*)
  - Originally offered employment at **Accenture Japan Ltd.**
  - Started training virtually at the Mumbai office (MDC2B) of Accenture India due to pandemic related border closures.
- **Walmart Labs, Software Engineering Intern** (*Apr'20 - Jul'20*)
  - Made a **Java webapp** for internal company usage. Setup a **Kibana** dashboard linked to an **ElasticSearch** database.
  - Worked on **python** scripts that scrape log files periodically and worked with **JDBC** queries.
- **Google Summer of Code Participant (Boost C++)** (*May'19 - Aug'19*)
  - Worked on Boost.Real, which is a **C++** library to perform range arithmetic for arbitrary precision real number arithmetic.
  - Used C++ concepts such as **templating** and **user defined literals**.
- **IITK NYC Office, Full Time Development Intern** (*May'18 - Jul'18*)
  - Worked on the backend of a **scalable** web application using **Scala** language with **Akka http** library.
  - Led a team of 4 members during the course of the internship.

Relevant Projects

- **Data Race Detection on GPUs** (*Dec'20 - Aug'22*)
  - Explored whether existing predictive **race detection** techniques can be applied to the **GPU** context.
  - Worked with **Intel** developers. Used **Intel oneAPI** tools such as **gdb-oneapi** and **GTPin**. Several bugs were found in these tools in the course of our work and some have been fixed by the Intel Team.
- **Visualizing MPI performance on the fly** (*August'20 - May'22*)
  - Extended the functionality of library **mpiP**, by **LLNL**, to generate reports intermittently, as controlled by a server.
  - Held a **Research Assistant** position at my undergraduate institute for working on this project from June to August, 2021.
- **Low Rank Matrix Approximations and Algorithms** (*May'19 - June'19*)
  - Read up on and implemented **sampling algorithms** for **matrix approximations**.

Technical Skills

Teaching assistant for **Programming in C**, Spring'23
Teaching assistant for **Computer Architecture**, Fall'23
Relevant courses:

Languages: C, C++, Java, Python,MATLAB, CUDA
Other Skills: git, LaTeX

* Ongoing † Online

Parallel Computing	Advanced Computer Architecture
Cloud Computing Fundamentals*	Distributed Database Systems*
Deep Learning Specialization†	Parallel, Concurrent, and Distributed Programming in Java†