

ABHINABA CHAKRABORTY

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2nd-year PhD student, seeking internship roles in Performance Modelling and Distributed Systems.

EDUCATION

University of Ghent, PhD in Computer Science & Engineering | Ghent, Belgium

March 2024 -

Indian Statistical Institute, Kolkata, M.Tech in Computer Science | WB, India

Oct 2021 - June, 2023

Jadavpur University, Kolkata, B.E in Electrical Engineering | WB, India

July 2016 - June, 2020

EXPERIENCE

IMEC, Research Staff | Ghent, Belgium | **PhD Candidate**

March 2024 -

- Working on performance evaluation and modelling of networking and computing aspects of cloud and edge networks

Predigle, Software Engineer - L3 | Chennai, India

Aug, 2023 - Dec 2023

- Designed and implemented Django REST APIs for a JIRA-integrated application enabling Agile methodology adoption across organizations.
- Optimized the Rule Engine in the JIRA App backend, reducing latency by 17%.

IMEC, International Scholar | Leuven, Belgium | **Master Thesis**

March 2023 - July 2023

- Developed an SST component in C++17 for efficient testing of the memory hierarchy module inside SST-13.x
- Designed and implemented improved directed strategies resulting in 50% reduction in validation effort for validation with comprehensive coverage goals.

Airtel, India, Engineering Intern | Bangalore, India

June 2022 - Sept 2022

- Designed a library to effectively detect data drift in real-time for personalized ad serving at scale, utilizing the PySpark framework.
- Successfully integrated the library with the existing proprietary platform to integrate to enable seamless data drift detection tasks.
- The solution significantly reduced the manual effort and time required for monitoring the data pipeline and generating detailed summary reports, resulting in a 30% increase in overall efficiency.

Publications

- [1] **A. Chakraborty**, A. Banerjee, V. Kumar, A. Mallik *On-the-fly Validation of Hierarchical Cache Coherence Protocols using Directed Testing*, **ISVLSI**, 2025
- [2] **A. Chakraborty**, W. Tavernier, A. Kourtis. M.Pickavet, A. Oikonomakis, D. Colle *Profiling Concurrent Vision Inference Workloads on NVIDIA Jetson*, **ISPASS**, 2025.

SKILLS

Languages C/C++, Python, CUDA, CMake, Bash, L^AT_EX, Vim, MySQL, HTML, CSS Javascript

Tools SST Simulator, NS3 Simulator, CBMC

Software Pytorch, RabbitMQ, Django Rest Framework, Pyspark, PyLucene, NumPy, Pandas, Matplotlib

Others Atlassian Forge UI, Git, GitHub, Docker, Kubernetes, MongoDB

PROJECTS

Search Engine | M.Tech Course Project

- Developed a search engine by implementing indexing and searching functionalities using the PyLucene library.
- Utilized FIRE dataset for indexing and searching tasks, while evaluating the search engine by TREC evaluation.

Page Rank | M.Tech course project

- Implemented a custom vanilla search engine algorithm using PySpark.
- Utilized Facebook's Graph dataset as input to the algorithm

NBA to ω -Regex Simulator M.Tech course project

- Developed a console application in C++ to convert Non-deterministic Buchi Automata(NBA) to ω -regular expression using graph traversal and cycle finding algorithms.