SACHIT GAUDI

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Education

Masters - Computer Science	**Michigan State University**, East Lansing, USA	Jan 2023 - Expected Dec 2024
B.Tech - Mechanical Engineering	**Indian Institute of Technology**, Guwahati, India	Jul 2014 - May 2018

Graduate Research

Working on algorithmic fairness and privacy, with a focus on training models with fairness constraints and unlearning private information. Advised by Prof. Vishnu Boddeti.

Professional Experience

Reliance Jio Haptik   Mumbai, India
Software Engineer II   *Apr 2021 - Dec 2022*

- Led research and implementation efforts in multi-task BERT-based transformer models, significantly improving the **recall** of product labeling, NER, and intent detection for JioMart Search (25M MAUs) by $\approx$ **10%**.
- Engineered a collaborative filtering-based product personalization module, enhancing targeted recommendations. Achieved a significant improvement, with the **average first click rank** decreasing from 3.4 to **2.1**.

Reliance Jio Haptik   Mumbai, India
Software Engineer I   *Jan 2020 - Apr 2021*

- Refactored monolith to microservices, employing async queues for inter-service communication, resulting in a **30%** reduction in latency as well as contributing to a **99%** up-time guarantee.
- Led the initiative to integrate centralized logging into Elastic Search & Kibana, boosting developer velocity.
- Developed a solution based on mediator pattern that integrates messages from all sources, including Meta.
- Applied back-track algorithm to enhance Intent detection & utilized Tf-idf for improved semantic extraction.

SmatSuite   Hyderabad, India
Lead Backend Engineer   *Jan 2019 - Jan 2020*

- Led database and architecture design for a chatbot, implemented database sharding and replication, and pushed efforts to make platform No-code Plug & Play (PnP), enhancing scalability for integrations.
- Managed a team of 4 developers in the development of micro-services for flow analytics and client dashboard.

Saint Joseph's University   Philadelphia, USA
Summer Research Associate   *May 2017 - Jul 2017*

- Summarized content and scores of hotel reviews, attributing them to specific aspects (e.g., cleanliness, food). Conducted sentiment analysis and utilized feature importance to identify key aspects to improve occupancy.

Academic Projects

Pattern Unrecognition   Python, Pytorch, sklearn

- Addressed the problem of spurious correlation, developed a novel research solution by incorporating fairness constraints into MDA, yielding a substantial **8%** improvement in generalization accuracy.

Distributed Deep Learning   C++, MPI, OpenMP, NCCL

- Developed P-GPT algorithm - a gradient map-reduce parallelization strategy - for training deep learning models across multiple servers. P-GPT establishes optimal parameters for data scheduling, threading, and process parallelism tailored to specific network topologies achieving a parallel efficiency of **95%**.

Deep Learning based Image Search for e-commerce   Python, Pytorch, Huggingface, MongoDb, Faiss

- Implemented a Triplet Pair Siamese Network with a base model of VGG16, trained using hinge loss. Achieved a **10% recall** while maintaining flexibility for training on search rank data.

Technical Skills & Services

Programming	Python, C++, Java, PyTorch, Huggingface, CUDA, Shell Scripting
Databases & Search	MySQL, Redis, MongoDB, Solr, Elastic Search
Tools & Technologies	Docker, Flask, Django, Git, Jenkins, RabbitMQ, Wandb
Certifications	IIT Kharagpur, Foundations of AI/ML
Relevant Courses	Computer Vision, Graph Theory, Parallel Computing, Data Structures and Algorithms
Teaching	CSE 480 - Database Systems (Summer'23), CSE 232 - Intro to C++ programming (Fall'23)

Achievements

2020 - Received Big Hand award from Reliance for exemplary quarterly performance
2019 - Received Scholarship based on Merit from IIT, Kharagpur. (Top 10%)
2014 - Secured Joint Entrance Examination All India Rank of **2240** among 0.15 million candidates. (Top 1.5%)