

Sachit Gaudi

gaudisac@msu.edu | sachit3022.github.io | +1 (517) 944-7743

EDUCATION

Master of Science in Computer Science & Engineering

East Lansing, MI

Michigan State University

Jan 2023 - *

- Graduate Teaching Assistant: [Database Systems](#) (Summer'23), [Intro to C++ programming](#) (Fall'23)
- Relevant Courses: Computer Vision, Graph Theory, Parallel Computing

Bachelor of Technology in Mechanical Engineering

Guwahati, India

Indian Institute of Technology, Guwahati

July 2014 - May 2018

- Relevant Courses: Linear Algebra, Data Structures and Algorithms, Calculus, Differential Equations.

TECHNICAL SKILLS

Programming: Python, C++, Java, PyTorch, Huggingface, Shell Scripting

Search and Databases: MySQL, Redis, MongoDB, Solr, Elastic Search

Other Tools and Technologies: Docker, Flask, Django, Git, Jenkins, RabbitMQ

Cloud: AWS, Azure, IBM

Certifications: IIT Kharagpur, Foundations of AI/ML

RESEARCH EXPERIENCE

Graduate Research

East Lansing, MI

Advisor: Prof. Vishnu Boddeti

Jan 2023 - *

- Working on algorithmic fairness and privacy, with a focus on training models with [fairness constraints](#) and [unlearning](#) private information.

PROFESSIONAL EXPERIENCE

Software Development Engineer - II

Mumbai, India

Reliance Jio Haptik

Jan 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** decreasing from 5.3 to **3.2**.

Software Development Engineer - I

Mumbai, India

Reliance Jio Haptik

Jan 2020 - Dec 2021

- Owned the developer module, involved migration to async queues. Led effort to implement centralised logging into Elastic Search, minimizing developer debugging time. Contributing to a **98%** up-time guarantee.
- Designed & developed **Mediator pattern**, a solution that integrates messages from all sources, including Meta.
- Applied the back-track algorithm to enhance Intent detection & utilized Tf-idf for improved semantic extraction.

Lead Backend Engineer

Hyderabad, India

SmatSuite

Jan 2019- Jan 2020

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

Summer Research Associate

Philadelphia, PA

Saint Joseph's University

May - July 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.

PROJECTS

Pattern Unrecognition

Michigan State University

Jan - May 2023

- 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

Michigan State University

Jan - May 2023

- 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 typologies achieving a parallel efficiency of **95%**.
- Implemented the neural network in C++ for optimal performance, incorporating map-reduce and distribution using MPI, coupled by matrix multiplication on OpenMP. The architecture is detailed in the accompanying [blog](#).

Deep Learning based Image Search for e-commerce

Indian Institute of Technology, Kharagpur

Sept - Oct 2019

- 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.

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%)