

Parismita Das

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EDUCATION

- **IIT Bombay | MTech in Computer Science & Engineering** (CPI: 9.86) (2022-24 | Mumbai, India)
- **IIT Guwahati | BTech in Engineering Physics** (2015-19 | Guwahati, India)
(Minor in Electronics Communication Engineering)

WORK EXPERIENCE & INTERNSHIPS

- **Full Stack Developer | ES Magico** (2021 - 22 | Mumbai, India)
 - Implemented features for **3 startups** consisting end-to-end development from **designing to deployment**
 - Designed the admin panel and refer-and-earn module for Vidyakul, an E-learning app with **500k+ users**
 - Co-created **web application** for live-classes including chat module, teachers/students platform for Vidyakul
 - Developed the **database design** and **REST APIs** for Qriteek App, an anonymous rating platform
 - End-to-end development for UStart App, a social media platform targeting investors, startups & job seekers*Tech Stack: NodeJS, MongoDB, typeORM, React, AdminBro, FirebaseDB, AWS S3, JWT Auth*
- **Google Summer of Code | The R Foundation for Statistical Computing** (2018 | Remote)
Project Title: MMIT (Maximum Margin Interval Trees)
 - Built an **R package** with roxygen2 documentation, vignettes, unit testing via testthat, and CI with Travis
 - Created Max Margin Interval Trees, **Random Forests** and **Adaboost** modules using **Breiman's CART** concept
 - Implemented learning, prediction, visualization, **cross-validation**, **min cost-complexity pruning** for the above
 - Benchmarked with **28 datasets** and employed dynamic programming for optimal-split via **margin-based loss**
- **Summer Intern | CitiCorp Services** (2018 | Pune, India)
Project Title: TRIMS UI/UX Modernization and Feed Generation for Mexico.
 - **Modernised UI/UX** and created a dashboard for TRIMS (Trade Information Management System) application
 - **Feed Generation** to help makers-checkers enabling quicker data processing & reduced workload, **Citi Mexico**

KEY PROJECTS

- **XData: Automated Testing and Grading Software for SQL Queries.** (2022 - 24)
(MTech Thesis | Advisor: Prof. S. Sudarshan)
 - **Objective:** Extending the Java Web-App for test data generation to check the correctness of SQL queries.
 - Added support for nested sub-queries and bag semantics, and migrated string solver using Z3's seq solver.
 - Re-designed and Refactored the mutations killing approach to de-couple each mutation processing and killing.
- **Text to SQL Generation using LLMs and XData** (ongoing)
(R&D Project | Advisor: Prof. S. Sudarshan)
 - Suggesting alternative queries using XData based on initial outputs from Language Learning Models (LLMs).
 - Designed a web interface guiding users towards the most effective SQL queries for their data retrieval needs.
 - Created REST API leveraging XData's query equivalence capabilities, and generating mutant SQL queries.

TECHNICAL SKILLS

* Elementary Proficiency

- **Programming & Scripting Languages:** R*, C, C++, Java, Python, HTML, CSS, JavaScript, PHP, Bash, Solidity*
- **Soft Skills & Languages:** English, Hindi, Teamwork, Leadership, Time Management, Adaptability, Decision Making
- **Databases & Frameworks:** MongoDB, MySQL, PostgreSQL, NodeJS, Django, Flask, Express*, Spark, Firebase, AWS-S3, Whoosh*, Elasticsearch*, Docker*, Linux*, Makefile*, OpenCV, SkLearn, NLTK, Git, CI/CD, Unit Testing, L^AT_EX
- **Additional Skills:** MicroServices, System Design, Database Systems, Distributed System, Object Oriented Design, Machine Learning, Computer Vision, NLP*, Prompt Engineering, Virtualization & Cloud Computing, Blockchain & Cryptocurrency, AI & Data Policy Studies, Information Retrieval*, Game Theory*, Human Resource Management*

SELF PROJECTS & OPEN SOURCE

- **EvalAI | Cloud-CV** - Contributed by feature adding and bug fixes to EvalAI, A Django based framework (2017)
- **P2P Blockchain Simulator** - Simulated peer to peer cryptocurrency network and attacks like selfish mining (2023)
- **DIY VM & Container** - Created my own hypervisor, guest OS, container & management Tool similar to Docker (2024)
- **Historical Data Analysis** - Data analysis of historical events using Spark and frequency-based ranking (2022)
- **Multi-Threaded Web Server** - Implemented a master-worker model for a HTTP web-server (2022)
- **Raman | 4I Labs, IIT Guwahati** - Lead a team of 15 to design a vision and speech aided humanoid (2017-2019)
- **Business Process for House-Keeping Management Workflow** - Designed a BPMN model for house-keeping (2022)
- **Studying effects of Wordpiece Tokenization on Sparse Retrieval on a Corpus** - a study comparing normal word long tokenizer & wordpiece tokenizer with & without proximity rewards using IR system like whoosh (2023)
- **The Economic Impact of AI Models: Case Study of ChatGPT in India** (2023)
- **ML-Based Reconstruction of EM Shower and Neutral Pion | Advisor: Prof. Bipul Bhuyan, IIT Guwahati** (2019)

PORs, EXTRA-CURRICULAR & ACHIEVEMENTS

- **Teaching Assistant** | Conducting tutorials, labs, doubt sessions, setting assignments and grading (2022-24)
- **Student Companion | Institute Student Companion Programme (ISCP), IIT Bombay** (2023-24)
- Awarded **AP Grade** in **AI Data & Policy** (Among 2 students out of 74), and **SPI 10/10** in Spring Semester, 2023
- Participated in the **Annual InSync Dance Show, IIT Bombay**, showcasing **Kathak** with a viewership of **1000+**
- Administering a **fashion and travel-focused Instagram account** with **2.5k followers** and several **sponsored posts**