Satyam Jay

Delhi, India | satyamj@sit.iitd.ac.in | github.com/satyamjay-iitd | https://satyamjay-iitd.github.io/

EDUCATION

Indian Institute of Technology, Delhi   Aug 2023 — Present
PhD, Computer Science   *Delhi, India*
- Main Area of work: Metastable failure mitigation in distributed data streaming system.
- Currently working on:
  - Building new protocols for online rescaling and fault recovery of distributed systems in order to mitigate the metastable failures.
  - Exploring oppurtunites for optimization in distributed ML based video pocessing queries, and benchmarking current SOTAs
- Teaching Assistant: Cloud Computing, Software Design Practices

Indian Institute of Technology, Delhi   July 2020 — July 2022
M.Tech, Computer Science   *Delhi, India*
- Major Project:- Autonomous Vehicle Simulation in Unity and CARLA
- Coursework: Adv. Data Structures, Software Systems, Functional Programming, Machine Learning, NLP, Digital Systems
- TA: Machine Learning, Intro to AI

WORK

Machine Learning Engineer   July 2022 — July 2023
Pepperfy   *Mumbai, India*
- Enhanced recommendation engine by integrating user purchase history and search history data in the existing algorithm
- Developed a reverse image search engine from scratch using feature vectors from the DL models

Software Engineering Internship   Aug 2019 — Dec 2019
IBM   *Bengaluru, India*
- Developed an automated system for detecting and reporting compliance breaches.

PROJECTS

Author, Tensile
- High-performance Flink-like streaming data processing system in Rust; built as a research testbed with aspirations for industry adoption.Currently capable of executing job DAGs, online rescaling and fault recovery.

Maintainer, Popper
- Data analytics system specialized for ML workflows, capable of handling inflight errors.

C Compiler using LLVM
- Built this as part of lab assignment in compiler course.

AWARDS

- Excellent TA Award for Cloud Computing Course (2024)
- 1st place in hackathon organized by IBM. (2019)

SKILLS

- **Programming Languages**: Rust, Python, Java, C++
- **System Building**: HTTP/RPC/TCP Backends using FastAPI/Axum/Spring, GRPC, Tokio
- **System Deployment**: Linux, Docker, Aws, Git
- **Data Processing**: SQL, Pandas, Flink, Matplotlib
- **ML Systems**: Pytorch, Triton, Nvidia DeepStream