

# Yashvardhan Singh

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## EDUCATION

**New York University - Courant Institute of Mathematical Sciences**

2022 - May 2024

*Masters in Computer Science*

GPA: 4.0

**Indian Institute of Technology Kharagpur**

2015 - 2019

*Bachelor of Technology (Hons.) in Computer Science and Engineering*

GPA: 8.16

## EXPERIENCE

**Google** *Software Engineer — Android Platform Team*

2021 – 2022

- Managed and executed the seamless dissemination of Gallery Android app updates - used by over 250 Million active users
- Led the project for making app compatible with Android T - overhauled the permission system, added monochromatic icons, predictive back gesture and prefetch job scheduler changes for enhancing user experience.
- Developed and deployed Image to Pdf converter which auto detects text & auto aligns and crops image.
- Added 8 new Real Tone Filters which make images look more natural for people with different skin tones.
- Added and improved the metrics, health checks and corresponding health alerts for the app.

**Cohesity** *Software Engineer — Cloud Data Protection Team*

2019 – 2021

- Designed and developed an end-to-end Data Protection product for Microsoft 365 cloud applications, namely Outlook, OneDrive, Sharepoint, Groups and Teams.
- Led the project for migrating the above mentioned flows to cloud environment for providing DMaaS (Data Management as a Service).
- Architected highly scalable and parallel distributed micro services, to provide large data throughput for backups and restores.
- Made the system more efficient by reducing system idle time & optimizing RocksDB database resulting in 200% increase in throughput

## INTERNSHIPS

**Snowflake** *Software Engineer Intern — FoundationDB Database Team*

May 2023 – Sep 2023

- Designed, Integrated and rolled-out support for Consistency Scan feature for automatic monitoring and management of FDB clusters
- Integrated and added support for TSS(Testing Storage Server) and Stateless Process Colocation in FDB cloud service.

**Flipkart** *Software Engineer Intern — Cloud Platform Team*

May 2018 – July 2018

- Experimented with Linux package management tools (apt-get, dpkg) and customized Lintian(package linter) by adding 24 extra checks for repository management.
- Integrated the customized Lintian software with existing Flipkart Cloud Repository Management tool for automatic and unsynchronized + parallel Linting of packages at the time of their upload.

## PROJECTS

**Personalized Image Generation** | *Computer Vision*

- Used Multi-Controlnets to integrate pose and background into diffusion models to generate a personalized image.
- Used Dreambooth in conjunction with Controlnet to add pose data in Dreambooth's generations.
- For further finegrained control, integrated it with GliGen, combining the pose data with text tokens to generate grounding tokens.

**Critical Path Tracing and Analysis** | *Distributed Systems*

- Designed an algorithm to generate the Critical Path of a particular RPC in a Distributed Environment.
- Generated distributed traces using Jaeger to collect the dataset for generating Critical Paths.
- Visualized the Critical Path as a heat map on Grafana by plugging in Prometheus in the distributed system.

**Recommendation System** | *B.Tech Thesis Project*

- Worked on building a full fledged context aware Recommendation System for Research papers.
- Created a web crawler, which runs periodically and updates research papers dataset using Google Scholar from over 100k authors.
- Extracted the most important features from the feature-set to reduce dimensionality for ML algorithm and also created new features from existing data.
- Searches using user's query, profile and browsing history, and using matching through ML model, recommends research papers.

**QUIC Protocol** | *Computer Networks*

- Implemented a multiplexed connection protocol over UDP with TCP Tahoe-like congestion and flow control.
- Multithreaded implementation on both server and client side rolled together into a single application.

**Memory Resident Unix-Like File System** | *Operating Systems*

- Built a unix-like File System(FS) in which data is stored in-memory that can be accessed using APIs in C++.
- Supports common features expected of a popular FS, such as copying from PC to FS and vice-a-versa, deleting from the FS and making directories and adding symlinks to name a few.

## TECHNICAL SKILLS

**Programming:** C, C++, Java, Python, Scala, HTML, Javascript, Angular, Django, Databases

**Softwares and Tools:** Git, Linux, RocksDB, MySQL, Pandas, Numpy, Scikit-Learn, Tensorflow, Aws, Kubernetes

## ACHIEVEMENTS

Secured an All India Rank of 235 in JEE-Advanced examination.

Ranked in Top 0.01% in Higher Secondary Examination,CBSE.

Awarded KVPY(Kishore Vaigyanik Protsahan Yojna) fellowship by securing an All India Rank of 365.

Cleared National Standard Examination for Physics(NSEP), Chemistry(NSEC) and Astronomy(NSEA).