

Nishant Mittal

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EDUCATION

Indian Institute of Technology (BHU), Varanasi

Integrated Dual Degree (B.Tech + M.Tech) in Computer Science

Aug. 2018 – May 2023

CPI – 8.65

EXPERIENCE

Google

Software Engineer III

Nov 2024 - Present

- Engineered features for Google Home's Identity & Management that are critical for initial user journeys and directly impact user adoption.
- Exposure: *Backend Services (Java), iOS (Swift, Objc), Android (Kotlin)*

Software Engineer II

Jul 2023 - Oct 2024

- Led the development to support NPIs in Google Home and making it possible for first-party & third-party devices to talk to each other.
- Owned multiple high-priority complex features for smoke detectors that work on top of Weave protocol over BLE.
- Worked on migrating users having first-party devices from Nest to Google Home.
- Implemented a couple of math.h functions in LLVM's Libc.
- Worked on building a cross platform mobile framework for Google Home (similar to react-native).
- Exposure: *Backend Services (C++, Java), iOS (Swift, Objc), Android (Kotlin), Compiler toolchain (C, C++, LLVM), IoT (Weave, Google Home APIs, Smart Home Device Traits, Matter)*

Yugabyte

Jan 2023 - Jul 2023

Software Engineering Intern

- Rewrote a core part of change-data-capture (CDC) service to guarantee that the streamed records will always be in order of the commit time of database transactions irrespective of long-running transactions, different order in the WAL & any failure in the pipeline.
- Proposed & implemented various optimizations to minimize the expensive read operations from storage-layer (WAL) and improve the overall latency of RPCs associated with CDC.
- Built a feature for defining "features flags" in beta phase ensuring that users don't accidentally use these features/flags in production environments.
- Fixed bugs in multiple prometheus metrics exposed by YugabyteDB.
- Built support for streaming database columns that store binary data ("bytea") via the CDC pipeline.
- Built support for streaming CDC records in a *striim.com* compatible format.
- Tested, documented and wrote blog posts for various features & customer use-cases involving CDC.
- YugabyteDB is open-source, therefore, so are my code contributions.
- Exposure: *Distributed Systems (C, C++, Raft, Multi-threading), Streaming Infrastructure (Java, Kafka Connectors, Debezium), Prometheus.*

Cloud Native Computing Foundation (CNCF)

Sep 2022 - Nov 2022

Linux Foundation Mentorship

- Led the development of v1 real-time collaborative features for a visual cloud-native infrastructure designing and management tool called Kanvas.
- Ensured a conflict-free experience for multiple users working on the same design using CRDTs.
- Built features like real-time cursor movements, indicating the part of design other users are working on, etc. for better collaborative experience.
- This project was demoed at KubeCon 2022.
- Exposure: *Golang, Websockets, WebRTC, CRDTs, ReactJs.*

Google

May 2022 – July 2022

Software Engineering Intern

- Built the pdf integration for a smart document scanner & manager (now integrated with *Files by Google*).
- Explored multiple pdf handling libraries and integrated "pdfium" with the android app via Java Native Interface.
- Sandboxed the processes by pdfium library to tackle potential security issues related to malicious PDFs.

- Exposure: *Java, C++, Java Native Interface, Android.*

Productiv

Nov. 2021 – April 2022

Software Engineering Intern

- Designed & implemented a connector to ingest the user engagement data from a partner's API. Enhanced the flexibility and fault tolerance of the connector by making it capable of processing data in small batches.
- Fixed bugs in multiple connectors like Azure, Pagerduty and Salesloft and researched on the feasibility of 15+ connectors with the Productiv's platform.
- Made various improvements to the scripts that handle automated creation of jira tickets to ensure a smoother developer workflow.
- Exposure: *Node.Js, Amazon Web Services, Large-scale data ingestion.*

Gojek

June 2021 – July 2021

Product Engineering Intern

- Built new features, backdoor APIs, internal scripts for the Customer Owner micro-service handling user onboarding & management.
- Exposure: *Backend services (Ruby on Rails, Sidekiq, Redis, Kafka), REST APIs (Swagger, Open API Spec), Microservice architecture.*

Google Summer of Code | Joplin

June 2021 – Aug. 2021

Student Developer

- Re-engineered the templates feature in the Joplin desktop application as a separate plugin to make the feature more robust and maintainable.
- Ensured a smooth one-click transition to the new plugin from the legacy feature.
- Wrote scripts to automate the creation of GitHub release and announce the new releases in Joplin forum.
- It is one of the most downloaded plugins in Joplin and has 150+ stars on it's [GitHub Repo](#).
- Exposure: *Desktop Apps (TypeScript, Electron.Js, React.Js), CI/CD (GitHub actions).*

PROJECTS

GSoC Organizations

gsocorganizations.dev

- A web-app for viewing, filtering and analyzing the info of the organizations that have participated in Google Summer of Code.
- Wrote the aggregation algorithm to detect similar organizations across years of GSoC. Exposed the data to allow other developers to build more apps on top on this.
- 450+ stars on [GitHub](#) and 2m+ page views.
- Tech Stack: *Python, Gatsby.Js, React.Js, Redux, GraphQL.*

ACHIEVEMENTS

- Awarded Honourable Mention and Certificate of Merit by Gymkhana, IIT (BHU) Varanasi for my contributions to the institute being part of Science and Technology Council and serving as the Secretary of Club of Programmers, IIT (BHU) Varanasi.
- Rated Candidate Master (1916) on [Codeforces](#) and 5-Star (2010) on [Codechef](#).
- Secured 1st position in Microsoft Codefundo++ 2k19 and represented the institute in the national finals.
- Secured 3rd position in Microsoft Codefundo++ 2k18 in my freshman year.
- Bagged an AIR of 939 in JEE Advanced 2018, and 794 in JEE Main 2018 amongst 0.2 million, and 1 million candidates respectively.