

TANUJ GUPTA

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EDUCATION

University Of California, Santa Cruz | Research Assistant

Masters in Computer Science (GPA 4.0+/4.0)

Coursework: Distributed Systems, Design, and Implementation of Databases, Deep Learning, High-Performance Computing

Santa Cruz, California

September 2021 - June 2023

Birla Institute of Technology and Science, Pilani

Bachelors in Computer Science

Hyderabad, India

August 2015 - July 2019

EXPERIENCE

MetaJungle LLC

Team lead / Founding Software Engineer

Missouri

May 2023 - Present

- Leading a team of 9 engineers to develop a Web3 portal using **Next.js**, **Node.js**, **Express.js**, **GraphQL**, and **AWS** featuring wallet, creator, NFT, and collection pages with integrated social media, aggregating data from blockchains and the internet.
- Designed Blockchain Index using **Cassandra**, **MongoDB**, **Hadoop**, **Ethereum**, and **Redis** for efficient storage and querying of 20 million blockchain transactions with more than 1 billion Nft and ERC20 Transfers.
- Built distributed data pipelines for aggregating NFT data from blockchains and the internet at the scale of a million daily operations using **Airflow**, **Spark**, and **NodeJS**.
- Implemented **AWS** Based cloud infrastructure as code using **Terraform** with services like **ECS**, **ELB**, **ASG**, etc
- Developed Chat Service for all pages on Metajungle using **WebSockets**, load balancers, change streams, and **Kafka** queue.
- Developed an **advanced (RAG)** system to dynamically enhance NFT data generation, significantly improving the accuracy and depth of information available to customers for making informed decisions

Meta (Facebook)

Software Engineer Internship

Menlo Park, California

June 2022 - September 2022

Tech stack: Typescript, **React.js**, **XHP**, **GraphQL**, **XControllers**, **Hack PHP**, **MySQL**, **Scuba**, **Presto**, **ODS(Time series)**, **Data Swarm**.

- Developed two end-to-end applications in **React.js** and **Hack PHP** to carry the Profile to Profile+ transition on the Facebook app.
- Build data pipelines using the **Data Swarm** framework to create smaller aggregated tables to reduce GraphQL response time.

Airtel X Labs

Senior Software Engineer (backend)

Gurgaon, India

May 2020 - August 2021

- Led development and maintenance of FTTH(Fiber To The Home) project spanning three microservices using **Java Spring Boot**.
- Streamlined communication between microservices by introducing **Kafka**-based microservice orchestration,

OYO Group

Data Engineer

Gurgaon, India

June 2019 - May 2020

- Developed big data pipelines, batch and real-time, to sync data from various micro services into our hive-based data warehouse for analysis using **Spark**, **Airflow**, **Presto**, **Kafka**, **Kafka Streams**, **S3**, **Hadoop**, and **Hive**.
- Optimized data lake UPSERT efficiency using **Apache Hudi** and **AWS S3**-based Bloom Filters for reduced SLA.
- Developed APIs and wrappers in **Java Spring Boot** enabling seamless data migration between sources for developers.
- Migrated **Kafka** and **Airflow** clusters to **Kubernetes** to optimize AWS resource use by 20% and cost by \$40 a day.

HDFC Bank

Software Engineer Internship (full stack)

Gurgaon, India

January 2019 - June 2019

- At HDFC Life's ADCT team, developed features to streamline life insurance processes with **React.js** and **Node.js**

RESEARCH / PROJECTS

Large-Scale Graph Processing with Actors | C++(OpenSHMEM and HCLib) | [Github](#) | [link](#)

Jan 2023 - June 2023

Designed and implemented an actor-based graph library kernel for distributed graph construction and generation using the HCLIB library written in OpenMP and C++. implemented distributed Breadth-First Search (BFS) algorithms using AGL.

Optimize Reads in Rocks DB Embedded database | C++(Bloom filters) | [Github](#)

Jan 2022 - March 2022

Proposed a probabilistic constant time solution to reduce high read latency for high-read/low-write data in LSM Tree-based Rocks DB, an embedded key-value store. We solve this problem using probabilistic data structures(Bloom filters).

SKILLS

Distributed Systems, Node.js, React.js, Next.js, Typescript, Spring Boot, GraphQL, REST APIs, Design Patterns, Multi-Threading, GoLang, HTML, JavaScript, CSS, Tailwind CSS, AWS, Kafka, Docker, Kubernetes, Cloud Computing, Web Services, MongoDB, Cassandra, PostgreSQL, Redis, ETL, Airflow, Apache Spark, Hadoop, Presto, Hive, LangChain, Transformers, RAG, Solidity