

# Shritesh Jamulkar

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## Work Experience

### Samsung Research & Development Institute, Bangalore

Software Engineer

Bangalore, India

07/2021 - Present

- LTE System Manager (LSM) Project - In Management Software & Analytics Team
  - Functioning in Telecom Domain as part of Network Management System in Element Management System (EMS), which handles one or more telecommunications network elements.
  - Engineered a backend Golang-based LSM project, specializing in FM (Fault microservice); executed agile development practices and delivered the project on time and under budget.
  - Designed and implemented gRPC-based communication between microservices, enabling efficient and language-agnostic communication.
  - Worked on asynchronous processing using tools like Apache Kafka to handle background tasks and event-driven architecture.
  - Collaborated on the React-based frontend application feature development for the Fault Module UI.
  - Optimized performance by lazy loading components and implementing code-splitting to reduce initial load times.
  - Set up and maintained state management solutions like Redux or Context API to manage application-wide state and data sharing between components.
  - Implemented comprehensive testing strategies, including unit tests, integration tests, and end-to-end tests, to ensure the reliability and robustness of microservices.
  - Contributed to Python selenium-based automation testing for the entire Element Management System (EMS) software.
  - Providing TAC3 support to 4G networks efficiently for JIO, SKT, KT, UQ, KDDI, LGT, KPS, and others.
- Research and Patents Works
  - Collaborated with the blockchain team in various research projects in the blockchain space.
  - Enlightened team on advanced topics like ZK-SNARKs, ZK-STARKs, Bulletproofs, etc and designed various documents on the same.
- Samsung Software Competency Test (SWC) - Advanced Level

### The Linux Foundation

Hyperledger Mentorship Program 2021 - Mentee

06/2021 - 12/2021

- Hyperledger - Implement cross chain contract invocation using ServiceMesh way
  - Implemented cross-chain contract interoperability between Hyperledger Fabric and Hyperledger Besu in the 'ServiceMesh' way.
  - Developed cross-chain smart contract on Solidity with a 2-phase Locking mechanism.
  - Engineered sidecar relay to facilitate the contract invocation in Java spring framework.
  - Shaped the sidecar relay to listen for solidity events and orchestrated it to trigger transactions on the other relays using REST APIs.

### Zenithec Techware

iOS Developer

Raipur, India

04/2019 - 02/2021

- PetBro Business iOS Application
  - Made the complete PetBro Business iOS Application on MVVM Architecture with RxSwift support.
  - Used RxMoya as a Network Abstraction Layer and RxNuxe for image caching and displaying.
  - Published a library to overcome the issue of not hiding the keyboard when clicking on UIViewController.

### Allsoft.co

Software Developer Intern

Raipur, Chhattisgarh

07/2019 - 09/2019

- GFI Auction
  - Worked on GFI Auction project based on Angular Frontend framework.
  - Integrated NgRx Store to provide reactive state management.

## Publications & Research Works

### Cross-Chain Contract Invocation with Hyperledger Firefly

01/2023 - In Publication

*In Collaboration with Nikos Kapsoulis (Ph.D. candidate at National Technical University of Athens)*

- Proposed a cross-chain invocation methodology with Hyperledger Firefly supernode.

### Blockchain-Based Digital Evidence Management System

07/2020 - 12/2020

*Guide: Dr. Preeti Chandrakar (Assistant Professor) at NIT Raipur*

- Proposed a digital evidence management system for legal cases to store digital evidence in Hyperledger Sawtooth using IPFS in PBFT consensus mechanism.

### Echo Based Real-time Attendance System

08/2020 - 12/2020

*Guide: Dr. Jairam Naik (Assistant Professor) at NIT Raipur*

- Made an Echo-based attendance system with React GUI using Quiet Modem Project to take attendance of all the available listeners in one shot.

## Education & Certifications

### Masters of Science, Trinity College Dublin

Dublin, Ireland

Computer Science - Future Networked Systems

09/2022 - 08/2023

### Bachelor of Technology, NIT Raipur

Raipur, India

Computer Science and Engineering

08/2017 - 05/2021

- **Associate Android Developer** - Google Developers
- **Classical Cryptosystems and Core Concepts** - Coursera

## Key Projects

### Dublin Attractions

A Web application to find nearby attractions like artworks and museums from the current location in Dublin city.

- Contributed to the creation of knowledge graphs using ODFs and Ontologies using OpenAPIs and GraphDB.
- Established front-end WEB GUI using React and Nextjs frameworks.

### Open Journal

A decentralized platform for researchers to publish their work with fellow researchers and also review the works of other researchers to ensure trust and transparency between all the researchers.

- Shaped Solidity-based smart contracts for Ethereum Blockchain Network.
- Illustrated the front-end Web Interface using the Angular framework.

### Lua Parser + Interpreter

A Lua Parser + Interpreter using LPegLabel with an error recovery mechanism.

- Designed a simple compiler based on a specific grammar definition in Lua Programming language with the help of LPegLabel.

### HideKeyboardWhenTappedAround(iOS)

A Library for hiding the keyboard when the user tapped anywhere on the screen on iPhone.

- Published an iOS Swift-based library for hiding the keyboard when the user tapped anywhere in the UIViewController.

## Technical Skills

### Programming Languages:

Proficient in Java, Javascript/Typescript, Python

Familiar with C/C++, Swift, Kotlin, C#, SQL, Bash, Golang, Solidity, Ruby, Lua, Rust.

### Web Technologies:

HTML/CSS/SCSS, Nodejs(MERN & MEAN Stack), Django/Flask, REST/GraphQL/gRPC/Web Sockets/MQTT, React(Redux/Mobx/Recoil.js) /Angular (NgRx)/ Vue.js

### Mobile Technologies:

Native iOS(Swift)/Android(Java/Kotlin), React-Native(Cross-Platform), Flutter(Cross-Platform)

## Databases and Message Queue Technologies:

MySQL, Postgres, MongoDB, Cassandra, Redis, InfluxDB, Prometheus, GraphDB, Apache Kafka, RabbitMQ

## DevOps:

**Version Control:** Git, Perforce;

**Docker:** Docker with docker-compose, Docker Swarm;

**Kubernetes:** Kubernetes Pods, Deployments, Service, Jobs & Cronjobs, Service Monitors, Ingress Controllers, Load balancers, SSL certificate, Cluster Issues, API Gateways(Traefik); Kubectl, Kubens, Helm, Minikube;

**CI/CD:** GitHub Actions, Circle CircleCI, Travis;

**Monitoring:** Grafana (with Prometheus or InfluxDB), Honeybadger.io, Firebase Analytics & Crashlytics;

## Cloud/Deployment Platforms:

**Google Cloud Platform(GCP):** GCP Cloud Storage, GCP Kubernetes Engine, GCP OAUTH APIs, GCP Compute Engine;

**Firebase:** Firebase Authentication, Firebase Storage, Firebase Firestore Database, Firebase Real-Time Database; Firebase Analytics & Crashlytics; Firebase Admob;

**Amazon Web Services(AWS):** Lambda functions, S3 buckets, Elastic Kubernetes Service(EKS), Elastic Container Registry (ECR), Elastic Beanstalk(EB), Amazon API Gateways;

**Microsoft Azure:** Azure Kubernetes Service(AKS), Azure Container Registry (ACR);

**Digital Ocean:** Digital Ocean Kubernetes, Digital Ocean Droplets, Digital Ocean Serverless - Functions, Digital Ocean Apps;

**Vercel & Netlify:** Static site deployment, Edge CDNs;

## Blockchain Technologies, and Others:

Ethereum Solidity, Hyperledger Fabric / Sawtooth / Firefly / Burrow / Besu, Unity3D.

## Position of Responsibility

### Technocracy - Technical Committee of NIT Raipur

Raipur, India

*Tech Lead*

01/19 - 04/21

- Aavartan Android Application
  - Developed NIT Raipur's Tech Fest's mobile Aavartan application in Android which has features like Live event management and in-app networking with 1000+ downloads.
  - Built Android application in MVVC pattern and integrated network caching using Retrofit.
- Kleos2k18 Android Application
  - Developed a Live Quiz application for NIT Raipur's Flagship Triva Event using Django Framework and Android development.
  - Engineered the backend using Django framework and Postgres Database, created 50+ REST APIs using Django REST Framework to be used in the mobile application.
  - Built Android application that supports live quizzes among 1000+ participants and dynamic leaderboard generation.

## Talks and Bootcamps

- Given a talk on "Python in Blockchain Interoperability" at Pycon Limerick 2023 on March 25th, 2023.
- Given a talk on "Building insurance application on Corda Blockchain using Java" at Dublin Java User Group(DubJUG) on March 22nd, 2023.
- Given a talk on "Managing background work on Android" in I/O Extended with GDG Raipur on June 12th, 2022.
- Conducted Android Study Jams in NIT Raipur on course Android Kotlin Fundamentals course on date March 15th, 2021.
- Conducted a Bootcamp at Facebook Developer Circles Raipur on Blockchain-based Decentralized Application development in Ethereum Blockchain on March 20th, 2020.

## Achievements

- **Finals:** Smart India Hackathon 2019.
  - **Airport-Licensing DAPP:** Developed a decentralized application for Aerodrome Licensing for Airport Authority of India(AAI) for Aerodrome Licensing using Hyperledger Fabric with React Frontend and Android Application for the on-site officer.
- **Winner:** Codeutsava 4.0 Hackathon in Blockchain track.

- **Airport-Licensing DAPP:** Developed a decentralized application for Aerodrome Licensing for Airport Authority of India(AAI) for Aerodrome Licensing using Hyperledger Composer with React Frontend.
- **Finals:** Smart India Hackathon 2020.
  - **Choukidar Chrome Extension:** Developed a chrome extension to detect Top 10 OWASP Security vulnerabilities in a WebSite.
- **Fourth Winner:** Dot Slash Hackathon held at NIT Surat.
  - **dEmergency:** Developed a decentralized SOS triggering service for medical emergencies.
- **Winner:** Codeutsava 3.0 Hackathon in Blockchain track.
  - **dOrgans:** Developed a blockchain-based dApp in which if a person needs an organ he can register on the platform and wait until a cadaver organ(organ from a person who is dead and willing to donate his organs) is available, all this data will be stored on Ethereum based smart contract so that this sensitive information is tamper-proof.
- **Winner:** Application Development contest held IIIT Raipur.
  - **CG Tourism App:** Developed a React Native-based cross-platform application for Chhattisgarh Tourism Board with Django Backend.