## Shritesh Jamulkar

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## **Work Experience**

## **THG - The Hut Group**

Manchester, UK 11/2023 - Present

Graduate Software Engineer

- Stockmanager and Tyche Project In Stock and Availibility Team
  - Contributed to the design of various microservices of the entire THG's ecosystem.
  - Refactored various JAVA's Spring-based microservices to support new and old APIs for seamless upgradation and integrations.
  - Worked on Agile principles to handle various tickets by resolving them from preprocessing to coding to testing(both unit and integration) and finally documentation.
  - Implemented containerization with Docker and orchestrated services with Kubernetes for seamless microservices deployment.
  - Automated deployment workflows using CI/CD tools like Jenkins, GitLab CI, or GitHub Actions.
  - Refactored various Angular-based sites for newer APIs.

# **Samsung Research & Development Institute, Banglore** *Software Engineer*

Banglore, India 07/2021 - 10/2023

- 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 full-stack JAVA spring-based LSM project, specializing in FM (Fault Module); executed agile development practices and delivered the project on time and under budget.
  - Implemented RMI (Remote Method Invocation) for efficient, distributed communication between microservices, ensuring low latency and high performance.
  - Developed custom exception handling and error logging mechanisms to provide meaningful feedback to clients and streamline debugging processes.
  - Created and maintained comprehensive documentation for APIs and codebase to facilitate collaboration and onboarding of new team members.
  - Implemented dynamic user interfaces with jQuery, including DOM manipulation, event handling, and form validation for a seamless user experience for the Fault Module's UI.
  - Integrated third-party plugins and libraries compatible with jQuery to enhance the application's functionality, such as date pickers, data tables, or charting libraries.
  - Implemented comprehensive testing strategies, including unit tests, integration tests, and end-to-end tests, to ensure the reliability and robustness of various modules.
  - 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-SNKRKs, 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 felicitate 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** Raipur, India iOS Developer 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**

Computer Science - Future Networked Systems

Dublin, Ireland 09/2022 - 08/2023

## **Bachelor of Technology, NIT Raipur**

Computer Science and Engineering

Raipur, India 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 taps anywhere on the screen on an iPhone.

 Published an iOS Swift-based library for hiding the keyboard when the user taps 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 Issures, 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): Lamda 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**

Tech Lead

Raipur, India 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 "How my fish plays Pokemon?" at Kafka Submit London 2024 on March 20th, 2024
- 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.

#### **Achievemnts**

- Winner: EasyA x Polkadot London Hackathon 2024
  - Pallet Farcaster Frame: Developed a pallet to connect Farcaster Frames with polkadot/substrate based chains.
- Runner Up: ETH London 2024
  - **Deref:** Made "DeRefer" which is a decentralized referral system that leverages royalties to onboard users and engage communities.
- 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.