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Work Experience

THG - The Hut Group

Software Engineer

Manchester, UK

11/2023 - Present

- Stockmanager and various other microservices - In Stock and Availability Team
 - Worked extensively with Spring and Angular frameworks to deliver scalable front-end and back-end solutions, including developing user-friendly UIs and robust services with over 90% unit test coverage.
 - Moved legacy Tomcat-based servers to a Kubernetes-based architecture and designed Jenkins pipelines for a seamless deployment process, reducing manual jar deployments. This improved deployment time from 30 minutes to 10 minutes using Docker-based containerized deployment.
 - Worked with Microsoft SQL Server, CockroachDB, and CouchDB (SQL & NoSQL). Reduced database overheads by migrating legacy queries to batched queries, significantly decreasing application crashes and reducing query wait times by 40%. Efficiently provided data to stakeholders by writing and debugging SQL & NoSQL queries, supporting daily operations and troubleshooting issues across multiple teams.
 - Led 3+ key client integrations for warehouse management, resolving stock discrepancies and providing hypercare support for resolving complex issues, while ensuring on-time delivery and smooth collaboration across various teams.
 - Showcased advanced debugging skills for various clients, stakeholders, and marketing teams by independently resolving 90% of complex issues in legacy systems, significantly reducing the need for senior team intervention.
 - Implemented monitoring and alerting systems to track infrastructure health and application performance, improving uptime by 20% and ensuring swift issue resolution during production incidents.

Samsung Research & Development Institute, Bangalore

Software Engineer

Bangalore, India

07/2021 - Present

- LTE System Manager (LSM) Project - In Management Software & Analytics Team
 - Functioning in the 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 the 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.

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 UINavigationController.

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 Issuers, 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.

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.

Achievements

- **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.
 - **Chowkidar 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.