

# RAM SANATH KUMAR

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## Technical Skills

**Programming Languages:** Typescript, Javascript, Python, Java, Kotlin, Dart.

**Frontend & Mobile:** React, React Native, Tailwind CSS, Expo, Flutter, Native Android.

**Backend & Infrastructure:** Node.js, REST APIs, Microservice Architecture, CI/CD Pipelines (GitHub Actions, CircleCI)

**Databases:** MySQL, PostgreSQL, MongoDB.

**Cloud:** AWS (EC2, S3, Lambda), Google Cloud, Firebase (Functions, Firestore, Analytics, Hosting, OAuth, Storage).

**Web3 & Blockchain:** Ethereum, Bitcoin, ethers.js, SafeSDK, bitcoinjs-lib, BouncyCastle, HD Wallets, cryptography.

**Platforms:** Ledger, Trezor hardware wallet, Stripe, Chainflip, Testflight, Google Play Console.

**Tools & Methodologies:** GitHub, Jira, Agile, TDD, Integration Testing.

## Professional Experience

### Full Stack Developer, Remote, Freelance

Jan 2022 – Present

*Owned end-to-end client engagement, from requirement gathering, solution designing, iterating on feedback, timeline management without a dedicated PM.*

- Architected and shipped blockchain native applications solutions (Ethereum/Bitcoin wallets, multi-signature solutions, browser-based DeFi) with integrated Ledger and Trezor hardware wallets.
- Designed and built audited blockchain application that's approved by top-tier cybersecurity firm ([Least Authority](#)).
- Designed and deployed smart contracts on ethereum based chains written in solidity.
- Engineered secure HD wallet infrastructure with xpub derivation and real-time balance synchronization.
- Published and managed npm libraries (SDKs and Crypto Utils).
- Contributed fixes to open-source projects.
- Developed applications for POS terminals and NFC powdered devices.
- Developed progressive web apps and browser extensions.

### Solar for Schools, Software Developer

Aug 2020 - Jan 2022

- Co-built responsive mobile app used by 300+ schools across 4 countries for calculating ROI on solar investment and energy savings analysis.
- Architected advanced solar design and analysis tools using Google Maps SDKs.
- Gamified environmental education for students using mobile apps,
- Developed REST APIs and Single Page Applications for solar analytics.

### Scroble, Remote - Freelance Developer

May 2020 - Oct 2021

- Developed fullstack e-commerce mobile app for a luxury brand,
- Designed a unique drag-and-drop interface for viewing their products on a canvas.

- Engineered a business management portal for inventory, user, product, and promotion management across multiple stores

## Wipro Digital, Bangalore - Frontend Developer

Mar 2020 - Jul 2020

- Built internal financial management tools for a tier-1 bank.
- Migrated manually maintained workflows to specialized applications, reducing intervention.
- Created a reusable React component library (storybook) that improved developer experience across the team.

## Newgen KnowledgeWorks, Chennai - Software Developer

Dec 2017 - Dec 2018 / Jan 2019 - Feb 2020

- Built an end-to-end publishing platform serving authors, proof readers, and publishers.
- Led migration of a monolithic web application into microservices improving maintainability.
- Designed a specialized report generation dashboard replacing a legacy query based system.
- Migrated legacy SOAP based APIs into modern REST APIs.
- Developed webpages using Ruby on Rails and Haml.

## Talent Takeaways, Chennai - Software Developer Intern

Jun 2017 - Sep 2017

- Built a marketplace mobile app specializing in jewelry that also provided a knowledge base on different diamond cuts.
- Integrated payment gateway and order tracking on the user's dashboard.

# Projects

## Cross-Chain Stable Coin Bridge (NDA)

*Custom lock-and-mint bridge for USDC between Ethereum and a private Besu-based EVM chain*

- Designed and deployed solidity vault contract on the collateral chain with role based access control, event driven verification, time-locked withdrawals.
- Deployed a bridge token contract on the custom chain, pegged 1:1 to the collateral chain using cross chain nonce tracking to prevent replay attacks.
- Built a node relayer polling block for events and a PostgreSQL queue enabling horizontally scalable mint/burn workers.

## MultiSignature Wallet (NDA)

*Highly secure and convenient multi-chain multi-signature blockchain account.*

- Architected and shipped a self-custodial 2-of-3 multi-signature wallet with recovery services.
- Supports Ethereum like chains and Bitcoin with features such as staking for yields and swapping tokens.
- Integrated native Bitcoin derivations and used Safe Global for Ethereum which is used by popular exchanges like Bybit for cold storage.
- Architected using nodejs, React Native, bitcoinjs-lib, ethers.js.

## Payment Wallet (NDA)

*A digital cash collection solution for small businesses.*

- Developed enterprise mobile wallet for blockchain-based B2B digital payments with multi-factor authentication.

- Included real-time payment synchronization using gRPC protocol.
- Integrated cryptographic wallets with biometric verification using Apple's secure enclave and Android keystore.

### **Common Spot (Personal Project)**

- Multi destination route planner that connects a destination from more than one point and vice-versa.
- Useful to assess the closest point of interest based on travel time.
- Can also be used to know the travel time to a destination from various starting points.

### **Blood Donation App (Social Innovation - [News Article](#))**

*A mobile app that connects donors with recipients in need of blood.*

- Implemented matching algorithm based on multiple parameters like proximity, last donation date.
- Built with consultation from experts in the field for the system's design.

### **Missing Person Finder (Academic Project)**

- An application to find missing people using publically available CCTV footage.
- Trained an on-device facial recognition model to identify people.
- Built using OpenCV, Django and React Native.

### **VirtualEye (Hackathon Project)**

- Native Android application developed to assist people with limited visual capacity.
- Implemented Google Tesseract, Vision APIs, text to speech engines to help them navigate with talkback.

### **Catasstrophy (Personal Project)**

- Curated picture feed of cats made with React Native, Redux and [thecatapi.com](http://thecatapi.com) inspired by Instagram.

## **Education**

**Bachelor of Engineering in Computer Science**  
SCSVMV University, Kanchipuram

Apr 2015 - Apr 2019