VINEET PANT

India (Open to relocate)
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Senior software engineer with over 13 years of experience building secure, decentralized systems. I work in core protocol level development, self-sovereign identity (SSI/DID), and verifiable credentials, with systems programming in Rust, TypeScript, Java, and C, and earlier work across blockchain, decentralized identity, hardware wallets, and key-management solutions including India's Aadhaar program.

Technical Skills

Languages:	Rust, TypeScript, Java, C, C++, Haskell
Blockchain & Web3:	Core Protocol Development, EIP Implementation, Solidity, Light Clients (Incubed / in3), SSZ, libp2p
Identity & Security:	SSI / DID, Verifiable Credentials, PKI, Key Management, Hardware Wallets (Ledger)
Frameworks:	Tokio (async Rust), Rocket, Next.js, Express, NestJS, Spring, JNI
Databases:	PostgreSQL, TypeORM, Hibernate
DevOps & Tools:	Docker, AWS, GitHub Actions, Kurtosis, Cargo, CI/CD pipelines
Domain Expertise:	Core Protocol Development, SSI/DID, Hardware Wallet Development, Identity & Security Solutions, Key Management

Work Experience

Veriguard (MyID) **2024 - Present**

Architect & Contributor

- Architecting and building **MyID**, a self-sovereign identity wallet for India (live on the Play Store), covering the mobile wallet, Credo (Aries protocol) agent services, and the Hyperledger Indy trust layer.
- Enabling enterprises to issue and verify W3C verifiable credentials, with DigiLocker and Aadhaar eKYC onboarding and zero-knowledge selective-disclosure proofs.

Ethereum Protocol Fellowship **Jun 2025 - Nov 2025**

Fellow, Cohort 6 (Remote)

- Selected for a highly competitive fellowship focused on Ethereum core protocol development.
- Built a proof-of-concept of **EIP-7745 (Log Value Index)** in the Nimbus execution client, exploring how bloom filters could be replaced with a cryptographically verifiable log indexing system.
- Prototyped the LogIndex data structure with FilterMap bitmap organization, moved log storage to SSZ serialization, and added 256-byte epoch summaries to the block processing pipeline; tested in a Kurtosis devnet.
- Implementation report: hackmd.io/2HIPHFCnQ_yBIUYkAASqLQ

Blockchains LLC, Dresden, Germany **Feb 2020 - Mar 2024**

Software Engineer

- Developed blockchain and decentralized identity solutions in Rust, specializing in Self-Sovereign Identity (SSI) and Verifiable Credentials (VCs).

- Contributed to the open-source Vade SDK in Rust for nearly four years, implementing DID and VC specifications from the Decentralized Identity Foundation (DIF).
- Designed and implemented credential and presentation exchange protocols in the Rust-based Vade SDK.
- Worked on the Incubed (in3) Ethereum light client, implementing core protocol logic and integrated Ledger hardware wallets for transaction signing.
- Built C and Java bindings for the Rust-based Vade SDK and developed Next.js microservices to expose DID-related APIs.
- Worked extensively with asynchronous Rust (Tokio, Rocket) for building scalable applications; integrated Solidity smart contracts with Rust and TypeScript; built CI/CD pipelines and Docker containers.

Conduent Labs, Bangalore, India **Sep 2018 - Jan 2020**

Lead Engineer

- Led enterprise blockchain POCs using Java and C, and managed the full development of a Ledger hardware wallet application and key-management library component.
- Built key-management libraries in Haskell and C for internal Hyperledger based identity projects.
- Designed the APDU commands and specification for the hardware wallet and application interface.

Idemia, Noida, India **Nov 2015 - Oct 2018**

Tech Lead

- Worked on biometrics and smart-card solutions, including India's Biometric Identity project (Aadhaar) for biometric device integration and specifications.
- Delivered airport paperless entry & boarding, Smart Card, and Voter ID solutions.
- Implemented key-management schemes and key rotation / security functions on biometric devices.

Aricent, Bangalore, India **Feb 2015 - Nov 2015**

Senior Software Engineer

- Worked on Android (JNI) development for an IoT project; contributed to a device testing tool in Java and implemented features for the IoT SDK.

Smartchip Pvt Ltd, Noida, India **Feb 2012 - Feb 2015**

Software Engineer

- Built C, JNI, and Java software components and SDKs for Ingenico POS devices and biometric devices, including cross-platform JNI integration components.

Key Projects

MyID: Secure Digital Identity Wallet (Veriguard) *(Live on Play Store, in active development)* Architect and contributor on a self-sovereign identity wallet for India that lets people securely store, manage, and share documents, credentials, and business cards with bank-level encryption, while enabling enterprises to issue and verify W3C verifiable credentials. Built on Hyperledger Indy with Credo (Aries protocol) agents, DigiLocker and Aadhaar eKYC onboarding, and zero-knowledge selective-disclosure proofs. *Tech: Credo, DIDComm, Verifiable Credentials, ZKPs.* Website • Play Store

DVRPC: Decentralized Verified RPC *(Under development)* A drop-in replacement for standard Ethereum RPC that returns cryptographically verified responses by pairing a light client with EIP-1186 Merkle-Patricia-Trie proofs verified against a consensus-derived state root. As the sole author, I built the JSON-RPC server, light client integration, proof fetching, and MPT verification engine. *Tech: Rust, Tokio, libp2p, jsonrpsee, alloy.* GitHub

EIP-7745 Proof of Concept: Prototyped a simplified SSZ-based log value index with FilterMap bitmap organization and deterministic value-to-position mapping; tested in a Kurtosis devnet. *Tech: Nim, Kurtosis, Core Protocol.* Report

Vade SDK (SSI / DID): An SSI/DID SDK and microservices in Rust and TypeScript implementing DIF specifications, DID communication, and VC/Presentation protocols, with Rust bindings for C and Java. *Tech: Rust, TypeScript, NestJS.* GitHub

Identity & Data Management POC: Enterprise blockchain to establish trust among stakeholders and prevent fraud, using hardware wallets and PKI for authentication and attestation. *Tech: Haskell, C.*

Aadhaar Registered Biometric Devices (UIDAI): Device key management against a vendor HSM server and the specification for device-to-server communication preventing biometric replay. *Tech: C, Java.*

MasterCard EMV: Biometric: APDU library for smart-card communication enabling on-card biometric storage and verification. *Tech: Java, Android.*

Educational Details

Master of Computer Applications (MCA) Aug 2009 - Aug 2012
Uttarakhand Technical University | Nainital, India

Bachelor of Computer Applications (BCA) Aug 2006 - Aug 2009
Kumaun University | Nainital, India

Language Proficiency

Hindi (Native)

English (Professional)