Max K.
Senior Blockchain Engineer

SUMMARY

- 7+ years of experience building scalable Web3 applications and DeFi platforms with Solidity, Rust, and Java in Blockchain, DeFi, NFT Tokenization, Fin-Tech domains
- Strong expertise in smart contract development across Ethereum, Polygon, Solana, and Hedera, using ERC standards, Anchor, and Foundry
- Designed and optimized zero-knowledge circuits (ZKPs) and decentralized identity systems (DID) for privacy-preserving applications
- Integrated oracle networks (Chainlink, Pyth) and implemented advanced DeFi mechanics: yield farming, auto-compounding, AMMs, and on-chain governance
- Developed secure and gas-efficient smart contracts using EIP-712, proxy patterns, and off-chain signature schemes
- Built robust backend and API layers (Node.js, Java, GraphQL) with optimized database performance in PostgreSQL and MongoDB
- Delivered full-stack dApps with seamless wallet integration (MetaMask, WalletConnect, HashPack) and deployed them on Vercel / AWS
- Contributed to CI/CD, testing, and code quality using Hardhat, Slither, TestContainers, Jenkins, and GitHub Actions

TECHNICAL SKILLS

Main Technical Skills	Solidity (5 yr.), Solana (2 yr.), Java (5 yr.)
Programming Languages	Java (5 yr.), JavaScript (3 yr.), Python, Solidity (5 yr.), TypeScript (3 yr.)
Java Libraries and Tools	EJB, Java EE, Java Server Pages (JSP), Java Servlets, JDBC, JMS, JSF, JSTL, Lombok, MapStruct, Spring Cloud, Spring Data, Spring Security, Spring web
JavaScript Libraries and Tools	Ethers.js, Web3.js
Java Frameworks	Hibernate, Spring
JavaScript Frameworks	Node.js (3 yr.), Remix
UI Frameworks, Libraries, and Browsers	Primefaces
Databases & Management Systems / ORM	Firebase, Flyway, Hibernate, Liquibase, MongoDB, MySQL, PostgreSQL, Redis, Supabase

Cloud Platforms, Services & Computing	Spring Cloud
Amazon Web Services	AWS EC2, AWS Gateway, AWS Lambda, AWS S3
BlockChain and Decentralized Software	Anchor, Arbitrum, Brownie, EOS, ERC-1155, ERC-20, ERC-721, Ethers.js, ETH (Ethereum blockchain), Foundry, Hardhat, MetaMask, OpenZeppelin, Polygon, Solana (2 yr.), Sushiswap
Message/Queue/ Task Brokers	Apache ActiveMQ
QA, Test Automation, Security	Apache Maven, JUnit, Mockito
Version Control	BitBucket, Git, GitLab
Virtualization, Containers and Orchestration	Docker, Docker Compose, Kubernetes
Platforms	Firebase
Deployment, CI/CD & Administration	Gradle, Jenkins, TeamCity
Collaboration, Task & Issue Tracking	Jira
SDK / API and Integrations	Swagger
Other Technical Skills	Apache Kafka, Boot, Confluence, EIP712, Slither, Solhint, Testcontainers, Transparent proxy, Truffle, UUPS proxy

EXPERIENCE

DECENTRALIZED GAMING ASSET MARKETPLACE

10.2024 – 06.2025

Description: A privacy-preserving decentralized marketplace for trading in-game assets and NFTs across multiple gaming platforms. The system uses zero-knowledge proofs to verify asset ownership while maintaining user privacy and preventing fraud.

Responsibilities & achievements:

- Develop ZK circuits using Rust for privacy-preserving asset verification;
- Implement DID (Decentralized Identifier) standards using Solana for cross-game identity;
- Design and implement on-chain reputation scoring mechanisms for traders;
- Implement encryption for sensitive trading data;
- Build GraphQL API for complex data queries and aggregations;

- Implement advanced PostgreSQL indexing and query optimization;
- Develop comprehensive test suites for cross-platform compatibility;
- Project documentation.

Environment: Rust, Anchor, Solana, Circom, GraphQL, React, Node.js, AWS, PostgreSQL, Vercel, Git.

HEDERA HASHGRAPH REAL ESTATE PLATFORM

11.2023 – 10.2024

Description: This project explored the use of Web3 technologies to build a decentralized Real Estate Investment Trust (REIT) by tokenizing real-world assets (RWAs) like real estate. It enabled fractional ownership via ERC standards (ERC-20, ERC-721, ERC-3643), ensured compliance through KYC/KYT mechanisms, introduced decentralized governance models (DAOs), and optimized revenue distribution through smart contract-based treasury management. The goal was to democratize real estate investment, enhance liquidity, and support dynamic portfolio diversification.

Responsibilities & achievements:

- Implement ERC4626, ERC3643 and ERC7540 smart contracts;
- Develop custom token balancer to automatically distribute yield across ERC4626 and AutoCompounder contracts;
- Utilize Chainlink and Pyth oracles for price calculations;
- Integration of custom Hedera HTS tokens for common EIPs;
- Develop factory contracts for each standard;
- Set up GitHub actions;
- Implement linear unlock for ERC4626 shares;
- Prepare status reports and organize review meetings with management;
- Contributing issues (for example Hardhat forks with HTS) to improve the Hedera chain;
- Provide full test coverage for contracts;
- Bug fixing;
- Investigation and use in practice of various architectural solutions;
- Project documentation.

Environment: Solidity, React, Hedera blockchain, Hardhat, Foundry, HashPack, Metamask, Vercel, Git.

NFT MARKETPLACE

05.2018 – 06.2020

Description: DeFi platform and web application for brands and individual artists helping them to create and trade NFT (similar to OpenSea). It allows trading NFTs with a fixed price and using auctions (along with gas optimization by using offchain signatures). Also there is a powerful tool for easy customization of the interface.

Responsibilities & achievements:

- Designing RESTful microservices;
- Load balancing configuration between microservices (optimization taking into account high traffic);
- Bug fixing in microservices including the ones related to multithreading and memory leaks;

- Writing smart contracts for deployment and processing of tokens with Solidity;
- Using ERC721, ERC1155 as base implementations of contracts for working with NFT;
- Using EIP712 for off-chain signature mechanism for gas optimization as on open sea;
- Creating a custom token with ERC20;
- Integration EOS for working with nft;
- Using Transparent proxy to upgrade smart contracts;
- Using SushiSwap for integration, connection of the token to the exchanger;
- Using web3j for implementation of a custom event listener from the blockchain;
- Using Metamask as authorization provider, integration with backend and frontend;
- Configure Jenkins jobs;
- Kafka consumers and producers implementation;
- Messages processing with Apache Kafka;
- Utilizing good design practices, code reuse and writing efficient source code;
- Developing microservices;
- Functional tests implementation;
- Investigation and fixing production environments issues;
- Implementing business features;
- Configuring Kafka;
- Database query optimization;
- Procedures creation in SQL;
- Implement scripts with Liquibase for DB migration;
- Managing MongoDB environment from availability, performance and scalability perspectives;
- Implementing DAO for the MongoDB;
- Code review of teammates;
- Writing technical documentation;
- Interviewing new employees;
- Maintain systems by monitoring and correcting software defects;
- Functional tests implementation;
- Writing unit tests(Mockito), configuring testcontainers;
- Preparation of technical documentation for newcomers;
- Active participation in tech and architecture discussions;
- Communicating with the customer and clarifying solution details;
- Participation in the discussion of architectural solutions.

Environment: Java, Spring(Boot, Data, Web, Security, Cloud), Polygon, ERC721, ERC1155, EIP712, ERC20, EOS, Transparent proxy, SushiSwap, Web3j, MetaMask, Solidity, Hibernate, Liquibase, JUnit, Mockito, Infura, Maven, TestContainers, Jenkins, Docker, Docker-Compose, Apache Kafka, MongoDB, PostgreSQL, Swagger, Git, Bitbucket, Lombok, Mapstruct, Jira, Confluence.

ENERGY TRADING PLATFORM

06.2020 – 11.2021

Description: A decentralized exchange (DEX) specifically designed for trading renewable energy credits and carbon offsets using automated market makers. The platform enables instant liquidity for green energy financing and provides yield farming opportunities for environmental projects.

Responsibilities & achievements

- Design and implement constant product AMM contracts using Anchor for energy credit trading;
- Develop yield farming mechanisms for renewable energy pools;
- Integrate with oracle network for accurate energy pricing;
- Implement MEV protection and flash loan attack prevention;
- Build intuitive trading interface with real-time price feeds;
- Create comprehensive analytics for trading volume and liquidity metrics;
- Bug fixing;
- Investigation and use in practice of various architectural solutions;
- Project documentation.

Environment: Rust, Anchor, Solana, Serum DEX, React, Web3.js, Vercel, Node.js, Git, WebSocket, PostgreSQL, Jira, Confluence.

PHYSICAL AMMO TOKENIZATION PLATFORM (US)

11.2021 – 06.2022

Description: The primary objective of the project is to tokenize the trade of ammunition assets, bringing innovation to the industry. Through the Initial Coin Offering (ICO), each token issued within the ecosystem represents a specific caliber of ammunition. These tokens can be redeemed for physical ammunition, with each token equivalent to one round of ammunition corresponding to its caliber.

Responsibilities & achievements:

- Communicating with Smart Contracts auditors;
- Developing secure Smart Contracts;
- Testing Smart Contracts;
- Fuzzy testing;
- Deploying Smart Contracts on testnet and mainnet;
- Implementing new Smart Contracts features;
- Implementation of autoswap from Ethereum to USDC;
- Developing custom SoulBound token for KYC feature;
- FE integration;
- Building the metamask authorization flow on FE;
- Scanning the security of Smart Contracts;
- Writing Hardhat scripts;
- Holding code reviews;
- Smart Contract gas optimisation;
- Interviewing new project members.

Environment: Solidity, Polygon, Hardhat, Ethers, Slither, Solhint, OpenZeppelin, Uniswap, Onfido, WalletConnect, Gnosis Safe, Metamask, React, Node.js, TypeScript, Foundry, PostgreSQL, Jira, Confluence, Bitbucket.

EDUCATION

Computer Science and Software Engineering