Alex K.
Architect/Team-lead Team Lead / Tech Lead / Software Engineer / Blockchain Developer

SUMMARY

- Team Lead / Tech Lead / Software Engineer / Blockchain Developer with 10 years of experience.
- Strong expertise in blockchain development, building decentralized applications (dApps) using Solidity and Rust for EVM and Solana networks.
- Proficient in frameworks like HardHat and Anchor.
- Develop, test, and deploy smart contracts, integrating wallets (e.g., Metamask) and working with DeFi protocols (Uniswap, Aave) and NFT standards (ERC-20, ERC-721).
- Has solid experience in backend development using Django, FastAPI, and SQLAlchemy for scalable APIs and microservices.
- Familiar with CI/CD automation (e.g., GitLab CI/CD, GitHub Actions) and cloud infrastructure on AWS (Lambda, EKS, RDS).
- Skilled in integrating blockchain technologies with backend systems, ensuring code quality through unit testing, fuzz testing, and security audits with tools like RustSec and Slither.

TECHNICAL SKILLS

Main Technical Skills	Python (7 yr.), Solana (4 yr.), Solidity (6 yr.), JavaScript (3 yr.), Rust (2 yr.)
Programming Languages	JavaScript (3 yr.), Python (7 yr.), Rust (2 yr.), Solidity (6 yr.), TypeScript
Python Libraries and Tools	Alembic (1 yr.), Pydantic (1 yr.), pytest (3 yr.), Web3.py
Rust Libraries and Tools	Cargo (4 yr.)
Python Frameworks	Django (3 yr.), Django REST framework (2 yr.), FastAPI (1 yr.)
JavaScript Libraries and Tools	Ethers.js, Web3.js
Databases & Management Systems / ORM	AWS ElasticSearch (1 yr.), MongoDB (1 yr.), PostgreSQL (4 yr.), Redis (3 yr.), SQLAlchemy (1 yr.)
Cloud Platforms, Services & Computing	AWS (4 yr.)

Amazon Web Services	AWS Cloudformation, AWS CloudWatch, AWS Cognito, AWS EC2, AWS ECR, AWS ECS (Amazon Elastic Container Service), AWS Elastic Kubernetes Service (EKS), AWS ElasticSearch (1 yr.), AWS IAM, AWS Lambda, AWS SNS, AWS SQS (1 yr.)
BlockChain and Decentralized Software	Aave, Anchor (4 yr.), BSC (2 yr.), DAO, ERC-1155, ERC-20, ERC-721, Ethers.js, Hardhat, IPFS (InterPlanetary File System), MetaMask, OpenZeppelin, Polygon (1 yr.), Solana (4 yr.), Uniswap, Web3.py
SDK / API and Integrations	Api Gateway, FastAPI (1 yr.)
Message/Queue/ Task Brokers	Celery (4 yr.), Kafka (1 yr.)
Virtualization, Containers and Orchestration	Docker (4 yr.), Docker Compose (4 yr.), Kubernetes (1 yr.), Terraform (1 yr.)
Version Control	Git, GitHub, Github Actions, GitLab
Deployment, CI/CD & Administration	GitLab CI, Jenkins (2 yr.)
Web/App Servers, Middleware	Nginx
QA, Test Automation, Security	pytest (3 yr.)
Other Technical Skills	Audit Rust (4 yr.), Base, DeFi Metachain, EIP-712, ERC-721A, EVM networks, Fuzz (4 yr.), Mythril, PancakeSwap, ProxyContracts, Pyth (4 yr.), RDS, RustSec Cargo, RustSecCargo (4 yr.), Slither, Solhint, SPL (4 yr.), Subgraphs, v2/v3, Wallets, Wormhole

EXPERIENCE

Team Lead / Software Engineer / Blockchain developer, DEFI ECOSYSTEM HUB

08.2022 - till now

Description: DeFi Ecosystem Hub offers next-generation decentralized finance (DeFi) products built on DeFiChain, a Bitcoin-based blockchain that incorporates native DeFi capabilities.

Responsibilities

- Collaborated with multiple cross-disciplinary teams and provided technical leadership, guidance, and coaching to engineers through brainstorming sessions, design reviews, and pair programming;

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- Conducted and managed daily stand-ups, sprint planning, retrospectives, and sprint reviews to keep the team aligned and focused on goals;
- Tracked and reported on key Agile metrics;
- Blockchain development;
- Design project architecture;
- Prepare reports summarizing audit findings and recommendations for improvement;
- Integration with Wormhole;
- Integrate with new blockchains and side-chains to increase the multichain infrastructure;
- Implement buy and burn algorithms;
- Optimize performance of blockchain applications and smart contracts;
- Develop smart contracts for various DeFi products;
- Integrate with decentralized exchanges and other DeFi protocols;
- Updating and maintaining smart contract code and associated documentation as required to ensure accuracy and adherence to evolving standards;
- Preparing contracts for security review by conducting necessary testing and organizing relevant documentation in advance of the audit process;
- Stay up-to-date with the latest blockchain and Python technologies and drive the adoption of best practices with the team;
- Contribute to high-level architectural decisions for blockchain infrastructure and software systems, ensuring alignment with business goals;
- Implement EIP-712 for secure and efficient signatures;
- Implement robust security measures for all smart contracts to safeguard users' assets;
- Create comprehensive documentation for smart contracts, integration processes, and architecture design;
- Analyze and refine transaction processing to improve throughput and user experience;
- Code review.

Environment: Python, Solidity, Hardhat, Solhint, Wormhole, Base, Slither, Mythril, ERC-20, ERC-1155, ERC-721, ERC-721A, EIP-712, Web3.py, Pyth, Subgraphs, Aave, DAO, DeFi Metachain, GitHub.

Tech Lead / Software Engineer / Blockchain developer, PLAY2EARN GAME

08.2020 - 07.2022

Description: Web3.0 application with play2earn mechanics, which is on movement by car. Users owning a car earn standing in traffic, being behind the wheel while traveling, moving a car around the city. Each NFT car owner earns in-game currency, which can be used in-game or cashed in for profit.

Responsibilities

- Leading the team in making key architectural decisions, such as technology stacks, frameworks, etc.;
- Collaborate with product owners and stakeholders to refine user stories and clarify backlog items to ensure a clear understanding of project priorities and goals;
- Led Agile ceremonies, organized and facilitated different meetings;
- Blockchain development;
- Conducting security audits using RustSec to identify vulnerabilities and potential risks within dependencies and code;
- Writing and testing smart contracts using SPL;

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- Development of dApp applications by integrating blockchain technology with gaming mechanics, including tokenomics and NFT assets;
- Specify and implement consensus mechanism;
- Developing and optimizing system components for transmitting and receiving payments;
- Customize transaction execution;
- Optimize smart contracts for gas efficiency to minimize transaction costs for users;
- Conduct performance testing and benchmarking of blockchain transactions to ensure scalability;
- Build custom runtime upgrade mechanisms;
- Implementing utility tokens;
- Integrate off-chain data services to enhance gameplay experiences and provide real-time data for in-game events;
- Implement reward distribution mechanisms for players based on their in-game activities and performance;
- Building custom metrics and monitoring systems;
- Functional test of blockchain;
- Solve security issues;
- Mentoring new developers;
- Code review.

Environment: Solidity, Rust, JavaScript, TypeScript, RustSec Cargo, Audit, Rust, Fuzz, Cargo, Solana, Anchor, SPL, EVM networks, Polygon, Uniswap v2/v3, OpenZeppelin, ProxyContracts, GitHub.

Software Engineer / Blockchain developer, INVESTMENT PLATFORM

06.2019 - 07.2020

Description: Platform for investment in digital assets. The De-Fi platform combines a variety of broad functionality that makes it easier to work, the automation of many functions makes the user's work easier.

Responsibilities

- Close communication with customer and stakeholders to align project goals, ensure transparent progress, and incorporate feedback.
- Blockchain development using appropriate technologies and frameworks.
- Blockchain integration into applications, developing APIs and ensuring compatibility.
- Smart contract development to automate processes, manage assets, and enforce business rules.
- Custom algorithm development to address specific blockchain requirements.
- Signature EIP-721 implementation for NFTs.
- ERC-20 token development.
- Wallet integration for storing and managing digital assets.
- Smart contract development for blockchain migration.
- Mentoring new developers on blockchain concepts and best practices.
- Code review to ensure quality, identify issues, and enforce standards.

Environment: Solidity, JavaScript, TypeScript, web3.js, Wallets integration(Metamask), EVM networks, Binance Smart Chain, PancakeSwap, Uniswap v2/v3, OpenZeppelin, ProxyContract, Alpaca Finance, EIP-721, ERC-20, GitHub.

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Software Engineer, IN-GAME COMMERCE

02.2018 - 06.2019

Description: With the introduction of gComm – the first-ever purchasing platform that lets gamers buy physical products directly inside mobile games – the company pioneered a brand new market category: In-Game Commerce.

Responsibilities:

- Backend development;
- Optimizing API performance;
- Integrate external services with the application
- Configure Kubernetes (k8s) load balancing;
- Connect upload to AWS S3 triggers with AWS Lambda;
- Configuring AWS S3 events publishing to AWS SNS topic;
- Implement receiving notifications when new file uploaded to an AWS S3 bucket with AWS SNS;
- Ensuring high performance and adherence to REST principles;
- Defining roles on IAM;
- Configure sending an alert on a specific event from AWS CloudWatch with AWS Lambda;
- Create complex migrations in raw SQL.

Environment: Python, FastAPI, SQLAlchemy, Alembic, Pydantic, Celery, AWS(SQS, SNS, RDS, Lambda, ECR, EKS, API Gateway, IAM, CloudWatch, CloudFormation, etc.), MongoDB, Kafka, GitLab, GitLab CI/CD, Redis, PostgreSQL, ElasticSearch, Docker, Docker Compose, Terraform, Kubernetes(k8s), Pytest.

Software Engineer, LOAN APPLICATIONS BUILDER

09.2016 - 01.2018

Description: Application for creating loan applications. The user creates a loan application, the data about the user and his application are sent to an intermediary (bank). After confirming the user's data, all information is sent to the bank and a response is expected from the bank.

Responsibilities:

- Backend development;
- Building serverless part of application using AWS Lambda functions;
- Create technical and API documentation that meets required standards;
- Deploying and managing containerized applications using AWS ECS;
- Integrate the application with third-party services;
- AWS S3 configuration for storing images and other files;
- Scaling and configuring AWS EC2 instances;
- Monitor SQL server performance using tools and scripts;
- Create and manage indexes to improve the performance of SQL queries;
- Write automated tests to ensure quality and prevent regressions.

Environment: Python, Django, Django Rest Framework, Pytest, AWS(RDS, S3, Lambda, EC2, ECS, Cloudformation, Cognito, IAM, etc.), PostgreSQL, Celery, Nginx, GitHub, GitHub Actions, Docker, Docker Compose.

Software Engineer, SMART ADVERTISING PLATFORM

03.2015 - 09.2016

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Description: Platform for advertising in mobile applications. The main idea behind the app was dynamic ads based on likes and shares on Facebook. We, together with a team of data engineers, implemented the collection, storage and display of data.

Responsibilities:

- Backend development;
- Optimizing API performance and scalability through monitoring, load testing, and performance tuning;
- Create technical and API documentation using required standards;
- Implement background serverless calculations with AWS Lambda;
- Configure AWS S3 triggers with AWS Lambda;
- Management virtual machines on AWS EC2;
- Analyzing SQL query performance using query execution plans and optimizing it;
- Configuring CI/CD pipelines with Jenkins;
- Writing unit tests.

Environment: Python, Django, PostgreSQL, AWS(EC2, Lambda, S3, API Gateway, RDS, etc.), Redis, Celery, Jenkins, Docker, Docker Compose, Github.

ACHIEVEMENTS

Blockchain Performance Optimization

Improved transaction throughput by 25% and reduced latency by 15% through implementation of state sharding and off-chain computation solutions.

Smart Contract Security

Conducted thorough audits and implemented best practices in smart contract development, resulting in a 40% decrease in contract vulnerabilities and a 20% reduction in security incidents.

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