**John Pool**

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**Summary**

Seasoned senior software engineer with 10 years of experience building reliable and maintainable software systems. Proven ability to lead complex projects and deliver high-quality code in collaborative environments. Seeking to leverage extensive technical background to contribute to innovative Web3 initiatives.

**Experience**

**Lucia Protocol**

**Senior Software Engineer Jan 2024 - Present**

* Developed specific **Solidity** smart contract functions for a yield aggregation strategy, meticulously optimizing **opcode** usage for gas efficiency and implementing **reentrancy guards**.
* Implemented backend services using **Node.js** and **Ethers.js** to monitor **Ethereum** mempool transactions for specific contract interactions, feeding data into a real-time alerting system.
* Created integration tests within a **Hardhat** environment simulating complex multi-contract interactions, including flash loan scenarios and oracle updates using **Chainlink** data feeds.
* Configured and maintained **The Graph** subgraphs to index event logs from proprietary DeFi contracts, enabling efficient querying of historical yield performance data via **GraphQL**.
* Managed contract deployment scripts using **Hardhat Deploy**, integrating checks for **EIP-2535 (Diamond Standard)** proxies and coordinating updates via **Gnosis Safe** multi-signature wallets.

**Jasmy Lab**

**Senior Software Engineer Jan 2023 – Jan 2024**

* Engineered backend microservices in **Go** utilizing **concurrency patterns** (goroutines, channels) to process high-throughput data streams from IoT devices interacting with a **Hyperledger Fabric** network.
* Designed and implemented **gRPC APIs** with **Protocol Buffers** for schema evolution, ensuring efficient and type-safe communication between data ingestion and secure storage services.
* Contributed to data privacy features by implementing **Zero-Knowledge Proof** concepts (exploring libraries like **ZoKrates**) for verifying data attributes without revealing underlying sensitive information.
* Optimized **PostgreSQL** query performance for large time-series datasets by implementing partitioning strategies and refining index usage on tables storing encrypted device readings.
* Enhanced system resilience by introducing **distributed tracing** using **Jaeger** across microservices, helping to pinpoint latency bottlenecks in the data processing pipeline.

**Coinbase**

**Senior Software Engineer Jan 2020 – Dec 2022**

* Developed backend microservices in **Go** to handle specific aspects of **UTXO** management for **Bitcoin** wallets, including transaction signing and fee estimation logic.
* Built internal **REST APIs** following **OpenAPI specifications** to expose aggregated market data, consumed by both internal analytics tools and parts of the retail trading platform.
* Implemented interfaces for reliably interacting with **Ethereum nodes** (using **Geth/Infura**) to monitor **ERC-20** token deposit confirmations, handling potential chain reorganizations.
* Contributed state management logic using **Redux Toolkit** within the **React** and **TypeScript** frontend codebase for the real-time order book display component.
* Utilized **Kafka Streams** for implementing stateful processing of trading events, enabling real-time aggregation of user portfolio balances based on executed orders.

**Amazon Ecommerce**

**Full Stack Engineer Jul 2015 – Dec 2019**

* Developed and maintained backend services using **Java** and the **Spring Boot** framework, specifically focusing on the inventory management module within the larger e-commerce platform.
* Implemented dynamic frontend components for the personalized recommendations section using **React**, interacting with backend A/B testing frameworks.
* Deployed application updates to **AWS EC2** instances managed via **Auto Scaling Groups**, configuring associated **Elastic Load Balancers** and **Security Groups**.
* Designed relational database schemas and wrote optimized **SQL** queries involving complex joins for a **PostgreSQL RDS** instance handling customer order history.
* Configured **Jenkins** build jobs and scripted **Docker** image creation for a microservice handling order processing, automating deployment stages to **AWS ECS**.

**Skills**

**Languages**: Go (Golang), Solidity, JavaScript, TypeScript, Python, Java, SQL, HTML5, CSS3, Protocol Buffers, Bash Scripting.  
**Web3 & Blockchain**: Ethers.js, Hardhat, Truffle, Web3.js, Chainlink Oracles, The Graph (GraphQL), IPFS, ERC-20/ERC-721/ERC-1155 Standards, OpenZeppelin Contracts, Gas Optimization Techniques, Diamond Standard (EIP-2535), Gnosis Safe, Layer 2 Scaling Concepts.  
**Frameworks & Libraries**: Node.js, React, Redux (Redux Toolkit), Angular, Vue, Express.js, Spring Boot, gRPC, Gin (Go framework), Next.js, JUnit, Chai, Mocha, Sequelize/TypeORM.  
**Databases & Data**: PostgreSQL, Redis, MySQL, Kafka, Kafka Streams, SQL Performance Tuning, Indexing Strategies, Database Partitioning, Data Modeling, Time-Series Databases (e.g., InfluxDB awareness), Data Encryption Techniques.  
**Cloud, DevOps & Infrastructure**: AWS (EC2, S3, RDS, ECS, Lambda, ELB, VPC, IAM), Docker, Kubernetes (K8s), Jenkins, Terraform (IaC), CI/CD Pipeline Design, Nginx, Linux/Unix Administration, Git, Monitoring (Prometheus, Grafana), Distributed Tracing (Jaeger).  
**Testing & Security**: Unit Testing, Integration Testing, End-to-End Testing, Hardhat Testing Environment, Static Analysis (Slither), Fuzz Testing Concepts, Security Best Practices (Reentrancy, Access Control), Penetration Testing Awareness, Formal Verification Concepts, OWASP Principles.  
**Soft Skills**: Communication, Collaboration, Problem-solving, Adaptability.

**Education**

**Bachelor of Science in Computer Science**

National University of Singapore Aug 20011 - Jul 2015