# Liam Casper

## *Web3 Full Stack Developer*

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## PROFILE

6 year old boy in web3 age who loves blockchain. 🚀

## PROFESSIONAL EXPERIENCE

**Lead Blockchain & Fullsack Engineer**                                                    09/2020 – present
*Paradex Trade*

- **In general:**
  - It was a go time for me to leverage all my hard & soft skills to grow a talented startup defi company from zero to hero.
  - Tried to be as creative as possible for delivering innovative and user-centric features onto the platform.
  - Lead a team of 5 developers with strong collaboration and ownership of products.
- **Smart Contracts (40% focus):**
  - Wrote smart contracts in **Solidity**, **Rust**, Hardhat/Truffle, Foundry and Anchor for Cross-Chain **DEX** Platform on **EVM, Solana and Cosmos** networks.
  - Developed **perpetual markets** designed to provide a decentralized trading environment with advanced features such as **high-leverage trading**, liquidity provisioning, meta transactions and various risk management tools.
  - The trade is facilitated by platform's AMM model, using the **constant product formula** to determine prices based on **concentrated liquidity pools**.
  - Integrated **AI solutions** to enhance leverage trading capabilities within our DEX platform, significantly improving liquidity management, risk assessment, and automated market making processes.
  - Wrote and tested out sophisticated MEV feature leveraging **Uniswap V4's new Hook feature** to let users earn **extra revenue** from rebalancing at the end of trades and automatically re-invest their earnings.
  - Integrated CCIP protocol for communication between chains.
  - Significantly **reduced gas costs** by mitigating from Chainlink to efficient zk-based price oracle service.
  - Conducted secure smart contract **audits** within the team and with external auditing companies.
- **Frontend (20% focus):**
  - Collaborated with UI/UX designers to write pixel-perfect and optimized **frontend** code with **React.js**, Typescript, Next.js, Vue.js and Redux.
  - Implemented a custom wallet connection system using WalletConnect, reducing user friction by 30%.
  - Integrated web3 features using **Web3.js**, Ethers.js, solana/web3.js and cosmjs modules**.**
- **Backend (30% focus):**
  - Implemented multi-party computation (MPC) and threshold signature schemes (TSS) to ensure that the platform remains decentralized and secure.
  - Researched and integrated efficient **analytic** solutions for real-time market data, user activity and risk metrics analysis for the project by writing **Go** and **Python** API clients with Django and **Subgraph** Queries.
  - Developed **backend** server using **Node.js,** PostgreSQL, MongoDB and Typescript.
  - Enhanced backend security by integrating industry-standard **cryptographic encryption** algorithms into API endpoints and session management system for user authentication process.
  - Used **RabbitMQ** for communication between serveral microservices.
- **DevOps**
  - Implemented **CI/CD Pipeline** and improved **backend performance**, ensuring that code is released efficiently and with a high degree of quality using **AWS** EC2, ECS, ECR, NLB, ASG, Codepipeline, **Docker**, **K8s**, Grafana, Github Action and other services.
- **Testing**

- Wrote secure unit, integration and e2e **tests** for 95% code coverage with Jest, Cypress, Chai and Echdina(fuzz testing).
- **Research**
  - Stay updated with the latest blockchain technologies and trends, especially in the DeFi space, to continuously improve our platform.
  - Wrote 50+ technical design documentations in the architectural sessions and at the end of the reports.
- **Communication**
  - Had a frequent communication with stake holders and end users with the presentation of new features every 2 sprints.

## Web3 Developer                                                                09/2018 – 09/2020
*Tatum*

- **In general:**
  - Starting a career in the web3 industry with a startup team was fun and exciting,
  - Here I've learned web3 basics/best practicies and how to adapt and work in a fast-paced startup industry and company environment.
- **Smart Contracts (40% focus):**
  - Participated in building **NFT-marketplace** using ERC20, ERC721 and ERC1155 tokens using Solidity on Ethereum.
  - Participated in developing a **DID/SSI** Wallet using Zero Knowledge in compliance with OpenID Standards(OID4VCI, OID4VP, etc) for tokenization of a traditional Will Notarization Service for DIFC Court.
  - Developed contracts for **crypto payment gateway** system for on/off ramping of crypto/fiats.
  - Used slither for audit.
- **Frontend (30% focus):**
  - Integrated blockchain capabilities into decentralized applications (**dApps**) using **Web3.js** and **Ethers.js**, ensuring secure transactions and interactions with **smart contracts**.
  - Significantly **reduced page loading times** to **40%** and increased UX with latest technologies like lazy loading, skeleton components, browser caching and optimized images.
  - Played an **active** role in shaping the **frontend architecture**, designing components that are both **scalable** and **modular**.
  - Used **efficient** state management techniques and optimized performance for **fast** development and future **scalability**.
  - Implemented server-side rendering (**SSR**) with **Next.js**, improving website performance by reducing initial load times and enhancing **SEO**.
- **Backend (30% focus):**
  - Developed **backend** apis with Nest.js and GraphQL.
  - Used MySQL and Redis for **DB**.
  - Integrated various chain **rpc endpoints** for fetching analytic datas for the platform.
  - Set up a **serverless** microservice by using AWS Lambda functions.
  - Spearheaded the design and implementation of a highly efficient **CI/CD pipeline** by leveraging GitHub Actions.
  - Designed and implemented scalable and resilient **cloud solutions** on AWS, leveraging services such as EC2, S3, Lambda, and RDS.
- Actively participated in over 100 code reviews and adhered to Test Driven Development (**TDD**) principles to ensure high code quality.
- Mentored junior developers on best practices for writing maintainable and scalable code during code reviews, resulting in improved code quality and reduced technical debt.

## Fullstack Developer                                                            04/2016 – 08/2018
*ICapital*

- In general
  - Working in a large company after the university was a good bootcamp for facing and solving real-world issues and fastly growing day to day.
  - Here, I primarily focused on learning the best practices, working methodologies and communication skills which is vital as an IT developer.

- Developement
  - Collaborated with cross functional teams for a Skinnable and Scalable Payment System with above 93% product satisfaction reviews.
  - Developed several Web applications for different industry customers like Game, Insurance, **Finance** with **MERN** stack(MongoDB, Express.js, **React.js**, Node.js) and **Web3**.
  - Implemented a comprehensive testing strategy for a large-scale ecommerce application, resulting in a 30% reduction in production bugs and increased customer satisfaction.
  - Built cloud native architecture using **AWS Lambda**, **API Gateway**, **AWS CloudFormation**, and **AWS S3**.
  - Developed and managed cloud VMs with **AWS EC2** command line clients and management console.
  - Designed and implemented a secure database architecture using **PostgreSQL**, ensuring data privacy and compliance with industry regulations.

## EDUCATION

**Bachelor's Degree of Computer Science**                                                                    2011
*Technical University of Denmark*