Joss Duff

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Education

Lehigh University - B.S. in Computer Science, Computer Science and Business Honors Program   May 2023
Courses: Blockchain Algorithms, Blockchain Projects, Blockchain Concepts, Operating System, Database Systems, Algorithms, Game Theory

Skills

Solidity, theGraph, Reach, C, C++, JavaScript, ReScript, Java, MySQL, Hardhat, Foundry, Git

Experience

Smart Contract Developer - ChainBytes   January 2022 - December 2022

- Undergraduate capstone project mentored by Eric Grill, ChainBytes CEO and blockchain advisor to the President of El Salvador to verify fair payment of wages to coffee laborers in El Salvador.
- Designed, developed, tested, and deployed Solidity smart contract on an Ethereum Goerli testnet and a subgraph on theGraph network.
- WON best overall capstone project out of 30+ projects at Lehigh's 2022 computer science capstone fair.
- Maintained team's Hardhat repo for smart contract and subgraph development.

Smart Contract & Backend Developer Intern - Float Capital   June 2022 - August 2022

- Built a custom backend using GraphQL, Apollo, and ReScript to save emitted events and verify event data against data collected by subgraph.
- Designed, wrote, and tested Solidity smart contract for Protocol Owned Liquidity dapp.
- Developed and tested subgraph on theGraph network for Protocol Owned Liquidity smart contract.

Projects

Smart Contract Developer - SemiSwap   September 2022 - December 2022

- Designed, wrote, and thoroughly tested an ERC-20 to Ether Automatic Market Maker DEX to be used as the reference solution for the Blockchain Algorithms and Systems class I graded for.
- Wrote up an assignment description based on the reference solution I made to give my students a challenging but rewarding assignment .

Researcher & Developer - Hierarchical Consensus   August 2022 - May 2023

- Member of Lehigh's Scalable Systems & Software Research Group.
- Researching the viability of implementing a hierarchical consensus mechanism for central bank digital currencies.
- Reading and understanding published research papers in the database, distributed system, and parallel computing fields.

Smart Contract Developer - Algorand Crowdfunding   January 2022 - May 2022

- Taught myself how to use the Reach platform to create a decentralized crowdfunding application.
- Learned about development on the Algorand blockchain with the community and docs.
- Published tutorial of the process of building this dapp on the official Algorand developer portal with Algorand dev advocate Russ Fustino.

Full Stack Developer - Buzz   September 2021 - December 2021

- Worked with a small team to develop a message board application for software engineering class.
- Practiced agile development with two-week sprints and SCRUM management.
- Worked on the back end with Maven and Heroku, Android front end with Flutter, and as project manager.

Leadership

Grader, Course Designer, Lecturer - Blockchain Algorithms and Systems   August 2022 - December 2022

- Graded assignments of 60+ students.
- Designed, wrote, and tested class Solidity Automatic Market Maker project (see projects: SemiSwap).
- Gave a lecture on comparison of EVM and AVM as well as smart contract languages Solidity, Vyper, Yul, Reach, PyTeal, and TEAL.

President - Lehigh Blockchain Club   October 2021 - May 2022

- Led educational discussions with students about blockchain and cryptocurrency topics.
- Organized and planned club meetings and events.
- Recruited 100+ members.