

Joss Duff

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Education

Lehigh University - B.S. in Computer Science and Business Bethlehem, P.A.

May 2023

Courses: Blockchain Algorithms and Systems, Operating System Design, Systems Software, Design and Analysis of Algorithms, Game Theory

Skills

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

Experience

Smart Contract Developer - ChainBytes El Salvador

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.
- Wrote, tested, and deployed Solidity smart contract on an Ethereum testnet.
- Designed, developed, tested, and deployed a subgraph on theGraph network to index data for our front-end.
- Experienced a fluid and exploratory development environment involving a lot of problem solving.
- Maintained my team's Hardhat repo for smart contract and subgraph development.

Smart Contract & Backend Developer Intern - Float Capital

June 2022 - August 2022

- Improved smart contract event data indexing by 5 minutes faster than the existing subgraph.
- 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.
- Designed, developed, and tested subgraph on theGraph network for Protocol Owned Liquidity smart contract.

Projects

Researcher & Developer - Hierarchical Consensus

August 2022 - May 2022

- 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.
- February to May will be developing a demo of the consensus mechanism.

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.
- Had weekly 1-on-1 meetings with Algorand developer advocate, Russ Fustino.
- Published tutorial of the process of building this dapp on the official Algorand developer portal.

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 project.
- Gave a lecture on comparison of smart contract languages Solidity, Vyper, Yul, Reach, PyTeal, and TEAL.

President - Lehigh Blockchain Club

October 2021 - May 2022

- Coordinated with Lehigh University to reinstate inactive club.
- Led educational discussions with students about blockchain and cryptocurrency topics.
- Organized and planned club meetings and events.
- Recruited 100+ members.