

EDUCATION

University of Waterloo

Expected 2027

Bachelors of Mathematics (BMath), Honours Mathematics Co-op; GPA: 3.58/4.0

- Undergraduate Research Assistant: Implementing and testing novel blockchain L2 infrastructure in Solidity.
- Distinctions: President's Scholarship

EXPERIENCE

Software Engineering Intern/MEV— *Rust, Typescript, Python, Solidity*

2023, 2024

Protecc Labs

- **Earned \$100,000+** implementing and optimizing novel MEV (Maximal Extractable Value) strategies on EVM chains with Rust, Typescript, and Python.
- **Improved MEV algorithm success rate to 100%** by parallelizing data processing and tasks, backrunning oracle/competitor transactions, and refactoring memory management.
- **Managed \$200,000+** by implementing market maker functionality for NFT marketplaces on Avalanche in TypeScript.
- **Created \$1,000,000+ in volume** for client tokens with Rust and Typescript algorithms on Solana and Ethereum.
- Engineered comprehensive Rust testing suites with blockchain simulations ensuring successful strategy executions.

Contract Developer— *Rust, Typescript (NextJS, React, Express, TailwindCSS), Solidity*

- **Developed a perpetual futures protocol with \$1.2+ million TVL** on Arbitrum using Solidity and Typescript.
- **Secured 50+ first bids** on the Foundation NFT marketplace by creating and optimizing strategies in TypeScript.
- Designed and built landing pages for school and online communities using NextJS, Tailwind, and Figma.
- Rescued client's Ethereum funds by developing a realtime wallet monitoring and funds liquidation script in Rust.

Software Engineering Intern— *Typescript, Solidity*

2022

You are Matrix

- Implemented core logic and character functionality for turn-based blockchain games in Solidity.
- **Reduced user transaction fees by 10%+** by optimizing game functionality and minimizing storage and memory use.
- Built a comprehensive testing suite using Typescript, reducing bugs and streamlining the development/iteration process.

PROJECTS

Square Root Algorithm Optimization— *Rust, Huff*

- Implemented and optimized the integer square root algorithm in Huff, an EVM assembly programming language.
- Upstreamed implementation to Huffmate, the Huff standard library with over **400 GitHub stars**.

Algo Risk Terminal— *Python (Django, Pandas)*

- Risk management tool for trading teams in cryptocurrency markets built with Python. Determine whether smart money is entering or exiting the market, and react when smart money leaves by analyzing scale of market participants.

Watccha, Ethereum Wallet Tracker— *Rust*

- Modular Ethereum realtime event and wallet monitoring tool. Generalized calldata decoding powered by ChatGPT and notifications with the ability to execute on-chain responses to events.

Sozu Mantle MultiFaucet— *Typescript (NextJS, TailwindCSS), Solidity*

- Solved the issue of unfair testnet token distribution via a merit-based multifaucet. Using on-chain data and proof-of-humanity to attest a user's merit to determine token distribution.
- Built smart contracts with Solidity, and the frontend with NextJS, Typescript, and TailwindCSS.

Offline-Wallet— *Javascript (React Native), Solidity*

- Facilitated offline cross-chain Ethereum payments via private key signing over QR codes with an app built in React Native and account abstraction infrastructure built in Solidity.

F1 DRS Analysis— *Python (Pandas, Matplotlib, SciPy)*

- Python data analysis measuring the effectiveness of DRS between teams using telemetry data from the F1 2023 season. Calculated and used the force dissipation from DRS and optimal car use to determine efficacy across teams.

UNAI, AI calendar assistant— *Typescript (NextJS, TailwindCSS)*

- AI Calendar powered by ChatGPT built to adapt and learn from the user for an optimized personal experience.

TECHNICAL SKILLS

Rust, Python (Flask, Django), C/C++, Typescript/Javascript(TS/JS) (React, NextJS, React Native, Node, Express, Tailwind), Solidity (Foundry), SQL, HTML/CSS, Huff, Git, Unix, Figma, Autodesk Inventor, Solidworks