

Ali Shariatmadari

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Education

University of Waterloo – Honour's Bachelor of Software Engineering (BSE)

GPA 3.7 | 3A Term | 2019 – 2025

- Courses: Data Structures & Algorithms, OOP with C++, Compilers, Databases with SQL, Statistics, Linear Algebra

Skills

Languages Python, C++, TypeScript, JavaScript, HTML/CSS, Java, C, Assembly, SQL, Solidity

Tools/Frameworks Kubernetes, Docker, React, Node.js, MongoDB, AWS, Web3.js, Hardhat, Flask, Selenium, Bash

Experience

CapsuleNFT – Software Engineering

New York, NY | Sep 2022 – Present

- Creating fullstack web3 protocol for creating composable NFTs using **Solidity**, **Hardhat**, **Ethers.js**, **React** and **Material-UI**
- Upgraded smart contract integration tests to use live data and Hardhat test fixtures to speed up test execution by **200%**
- Developed a UI feature using **React** and **Ethers.js** to allow users to send and receive CapsuleNFTs

Bloq – Software Engineering

Chicago, IL | Sep 2022 – Present

- Developing infrastructure for cryptocurrency staking and managed blockchains using **Kubernetes**, **Docker**, and **Node.js**

Bloq – Software Engineering

Chicago, IL | Jan 2022 – May 2022

- Developed monitoring and backup tooling for managed blockchain services using **Node.js**, **Docker**, and **AWS**, expanding the test coverage of live nodes by **29%** and speeding up node backup generation by an average of **200%**
- Migrated monitoring dashboard and **MongoDB** database from **Docker-Compose** to **Kubernetes** with persistent storage
- Deployed an **NGINX** ingress controller on **Kubernetes** for dynamic API service routing to allow for **zero-downtime** deployments with rolling updates, and horizontal scaling of micro services
- Refactored a multitude of **Node.js** scripts as **asynchronous REST API** endpoints to allow for remote and parallelized execution
- Containerized, researched, and integrated **Polkadot**, **Binance**, and **Cardano** as managed blockchain cloud services

TD Bank – Software Engineering

Toronto, ON | May 2021 – Sep 2021

- Spearheaded the development of a web banking dashboard using **React** with a focus on user-experience and predictive content
- Reverse-engineered the online banking protocol to allow for secure rapid prototyping on live data using the **ChromeAPI**
- Built an ingestion pipeline for data sanitation and analysis, and visualized future predictions based on the data using **Chart.js**
- Co-led a research project on NFT markets and presented findings to **600+** staff and executives

Projects

DiVA 📄 – Decentralized Voting | **Hack the North 2021 Winner**

Solidity, web3.py, Flask

- A decentralized global election system powered by Smart Contracts on the **Ethereum** Network
- Prevented fraud and increased security by adding human and photo ID verification using Azure's Face API with high Accuracy
- Won out of **1,700+** participants

CtrlAir.Space 📄 – Gesture Control | **Hack the North 2020 Winner**

Python, Mediapipe, OpenCV

- A gesture-based human-computer interface for touch-less control using only a webcam
- Interpolated a user's finger landmarks for smooth mouse control using **Google Mediapipe**
- Trained and tweaked a custom gesture recognition model using **OpenCV** to execute system commands based on hand gestures
- Won out of **2,200+** participants

Vortex 📄 – Game Engine

Java

- A modular 2D game engine with adherence to OOP principles, display buffering, collision detection, and spritemap parsing
- Utilized the engine to build a two-player 2D shooter game based on the Portal series with support for user-created levels

Lia 📄 – Programming Language

Java, Swing, Regex

- A statically-typed interpreted language with support for storing 2 data types, loop structures, and type-checking
- Built a lexer using **Regex** for input tokenization and an editor environment using **Swing** for code execution and error handling

ShotSpot 📄 – Photography Map | **StarterHacks 2020 Winner**

Python, JavaScript, Node.js

- A dynamic map of top photography locations using scraped photo and location data from Instagram using **BeautifulSoup4**
- Won out of **500+** participants