




# SABRINA HIRANI

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## SKILLS

- Languages:** Python, Java, C++, C, Javascript, Typescript, Go, Rust, SQL, R, Solidity
- Technologies:** React.js, Express.js, React-Native, Flask, MySQL, PostgreSQL, Docker
- Data Science:** Pytorch, Tensorflow, NumPy, Pandas, HuggingFace, LangChain, LlamaIndex
- Blockchain:** Hardhat, Ethers.js, Chainlink, The Graph, OpenZeppelin, Solmate, Circom, Snark.js

## EDUCATION

- 9/2022 - 6/2026 **University of Toronto**  
BSc. Computer Science
- *Major: Computer Science, Minor: Statistics, Economics*
  - Relevant Courses: Software Design, Data Structures and Analysis, Systems Programming, Probability and Statistics, Applied Statistics, Microeconomic Theory, Multivariate Calculus, Linear Algebra
  - Director of Blockchain at Web3 @ UofT
- GPA: 3.8

## EXPERIENCE

- 5/2024 – PRESENT **Finance Process Transformations Intern**  
Royal Bank of Canada
- Led the development of multiple tax automation processes, using Robotics Process Automation (RPA) tools such as Blue Prism and VBA, to deliver a streamlined accounting workflow, saving an estimated 500+ hours of manpower per year
  - Learned about numerous financial processes within RBC in accounting, product control, etc.
- Robotic Process Automations / Python / SQL / Blue Prism / VBA / Excel
- 5/2023 – 8/2023 **Machine Learning Intern**  
CDTx @ University Health Network
- Programmed a virtual heart failure assistant by prompting and finetuning GPT models and HuggingFace models (Llama, Llama2, WizardLM, Falcon, Vicuna) using LlamaIndex, LangChain, HuggingFace to aid heart failure patients in managing their condition
  - Performed web scraping using Selenium to develop a heart failure training data corpus
- Pytorch / HuggingFace / LangChain / LlamaIndex / Selenium
- 9/2020 – 1/2021 **Blockchain and Software Engineering Intern**  
ZorroSign
- Programmed a microservice to save user data to a corporate blockchain using Express.js, Node.js, MySQL, Hyperledger Fabric Go
- Hyperledger Fabric Go / Express.js / MySQL / SQL
- 3/2020 – 8/2020 **Web Development Intern**  
CryptoChicks
- Redesigned cryptochicks.ca and cryptochicksacademy.com

## AWARDS

- \* The DaVinci Competition 2023, *Winner of Web 3.0 Category*
- \* SF Hacks 2021, *Winner*
- \* Hack to the Future 2022, *Finalist*
- \* Global Challenge 2020, *Finalist*

## PROJECTS

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06/2024	<b>Gradient Finance</b> <a href="https://github.com/sabrinahirani/Gradient-Finance">github.com/sabrinahirani/Gradient-Finance</a> <ul style="list-style-type: none"><li>• Programmed a synthetic asset protocol for investing in equities in the decentralized finance (DeFi) ecosystem</li><li>• Programmed a decentralized exchange (DEX) with an automated market maker for trading synthetic assets</li><li>• Tokenized vaults, price oracles, liquidity pools, and lots of tokens</li></ul> Solidity / Chainlink / OpenZeppelin / Solmate / Solady
12/2023	<b>Oasis Relief Fund</b> <a href="https://github.com/lakhwani/oasis">github.com/lakhwani/oasis</a> <ul style="list-style-type: none"><li>• Performed requests to PredictHQ Event API from a smart contract using the Chainlink network</li><li>• Programmed an external adapter for bridging an external service to the Chainlink network</li><li>• Programmed a crowdfunding smart contract (with a decentralized autonomous organization (DAO))</li></ul> Solidity / Chainlink / Express.js / Docker
12/2023	<b>Proof of Assets Protocol</b> <a href="https://github.com/sabrinahirani/Proof-of-Assets-Protocol">github.com/sabrinahirani/Proof-of-Assets-Protocol</a> <ul style="list-style-type: none"><li>• Programmed a NFT to prove ownership of an asset without revealing information about the asset</li><li>• Dabbled in zero-knowledge machine learning using Pytorch, HuggingFace, Ezkl</li><li>• Winner of Web 3.0 Category of The Davinci Competition 2023</li></ul> Pytorch / HuggingFace / Ezkl / Solidity
03/2024	<b>Crypto Trading Agent</b> <a href="https://github.com/sabrinahirani/Crypto-Trading-Agent">github.com/sabrinahirani/Crypto-Trading-Agent</a> <ul style="list-style-type: none"><li>• Programmed reinforcement learning agents, using Q learning strategies, policy gradient strategies, and actor-critic strategies, to learn a policy to maximize returns on a portfolio of popular cryptocurrencies</li><li>• Programmed a LSTM for price prediction (with the intention to explore model-based reinforcement learning techniques)</li></ul> Pytorch / Pandas / NumPy / Matplotlib / OpenAI Gym
03/2022	<b>ASKR</b> <a href="https://devpost.com/software/askr-8ywa76">devpost.com/software/askr-8ywa76</a> <ul style="list-style-type: none"><li>• Devised a decentralized lending protocol to introduce the idea of collateralized debt obligations (CDO) to the decentralized finance (DeFi) ecosystem</li><li>• Top 10 Finalist of Hack to the Future 2022</li></ul> Analytical Thinking / Problem Solving / Passion / Love

Dual Citizen of Canada and USA