




Philbert Lou

 philbertlou.github.io

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Education

University of Waterloo — Bachelor of Software Engineering

2020 - 2025

3.8 GPA | 86% Cumulative Average

Skills

Languages: Python, Go (Golang), Javascript, Typescript, C++, SQL

Technologies: Firebase, Node, React, Express, Django, DB2, Go Ethereum, Ethers, Stripe

Experience

AP Capital — Software Engineer

Toronto, ON | September 2022 - December 2022

- Led the development and optimization of algorithmic trading strategies on the Ethereum blockchain using **Go**, **Javascript**, **Go Ethereum**, and **Ethers**
- Utilized concurrent and parallel programming in **Go** to execute time-sensitive functions **4x** faster. Ensured atomic changes between **goroutines** and prevented race conditions by implementing the **Go memory model**
- Resolved communication errors and prevented excess connections to the company's Ethereum node by reducing the linearly-growing number of incoming WebSocket connections to a constant **8%** of the node's maximum load

TD Bank — Innovation Lab Software Engineer

Waterloo, ON | January 2022 - April 2022

- Deployed a collaborative drawing canvas application by utilizing **React** and **GUN** peer-to-peer graph database to deliver data to all users in real-time. Audited process and test results for future distributed systems explorations
- Developed an idea generation tool using **OpenAI's GPT-3** and **Firebase Cloud Functions** that creates and stores project ideas based on user-inputted topics into **Firestore database**

PerkUp — Software Engineer

Waterloo, ON | May 2021 - August 2021

- Built client-requested frontend features by utilizing **React** in **Javascript** and patched critical user-facing bugs such as users being able to create duplicate Stripe credit cards, cutting virtual card issuing costs by **50%**
- Increased users' spending power by up to **100%** by revamping the backend monetary management system to support flexible Stripe transaction assignments towards users' budgets using **Typescript** and **Firestore Database**
- Introduced platform security by implementing **Firebase Authentication**, **Firestore Rules**, and **Google Secrets Manager** to prevent unauthorized access to over **400** users' private documents

Projects

Essential

github.com/PhilbertLou/Essential

- Created a health-centric RESTful API using **Node** and **Express** for users to continuously track their water and sugar intake, set goals and restrictions, and build healthy habits
- Utilized **Passport.js** and **bcrypt** to authenticate users and to encrypt passwords stored in **MongoDB**

Clothing Forecast

github.com/PhilbertLou/ClothingForecast

- Engineered a neural network using **TensorFlow** libraries in **Python** that predicts what a user should wear given local weather conditions and temperature
- Developed the frontend with **HTML**, **CSS**, **Javascript**, and **Bootstrap**, and used **Django** for the backend