Philbert Lou

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Education

University of Waterloo — Bachelor of Software Engineering *(86% GPA)*   *September 2020 - April 2025*

Relevant Coursework: Algorithms, Concurrency, Operating Systems, Data Structures, Databases

Skills

Languages: Python, C++, Typescript, Javascript, SQL, Golang

Technologies: Firebase, Node, GraphQL, PostgreSQL, React, Tensorflow, Stripe, Ethers

Experience

Paper (acquired by Thirdweb) — Software Engineer   *San Francisco, CA | May 2023 - August 2023*

- Built interfaces and endpoints using **Typescript**, **Node**, **GraphQL**, and **PostgreSQL** that provide Web3 developers impactful views and information about their userbase
- Improved existing features by optimizing database queries to reduce redundancy in the codebase and deliver a faster user experience by cutting the client load time by over **50%**
- Bolstered the infrastructure by patching critical bugs, properly categorizing errors in **Datadog monitor**, and developing end to end test suites for all important user flows

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 parallel programming in Go to execute time-sensitive functions **4x** faster than in Javascript. 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 features by utilizing **Firebase Cloud Functions**, **Firestore Database**, **React**, and **Javascript**
- 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**
- Introduced platform security by implementing **Firebase Authentication**, **Firestore Rules**, and **Google Secrets Manager** to prevent unauthorized access to over **400** users' private documents

Projects

Clothing Forecast   github.com/PhilbertLou/ClothingForecast

- Engineered a neural network using **TensorFlow** libraries in **Python** as part of a **Django** web application that predicts what a user should wear given local weather conditions and temperature