Tejas **Wilkhoo**

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Education

University of Waterloo *Waterloo, ON*

Bachelor of Computer Science, Artificial Intelligence Specialization, Management Minor *Sept 2021 - April 2026*

- **Courses:** Networks, Distributed Systems, Operating Systems, Algorithms, Data Structures, Object-oriented C++. **GPA: 3.89, 88.82%**

Work Experience

Google *New York, NY*

Incoming Software Engineering Intern (SWE) *May 2024 - Aug 2024*

- Joining the Time team responsible for Google's distributed time servers, and will be creating infrastructure in **Golang and C++** to automatically assess communication delay, reducing SWE hours spent resolving issues and improving accuracy.

Google *Sunnyvale, CA*

Software Engineering Intern (STEP) *May 2023 - Aug 2023*

- Launched a mechanism to programmatically identify malicious URLs hosted on Google Compute Engine virtual machines, yielding a **10x increase** in hostile Compute Engine users addressed and disabled.
- Deployed **Golang** scripts on Google's primary anti-abuse platform to determine Terms of Service violations of abusive actors and to dynamically schedule takedowns based on individual user conditions.
- Developed **C++** services for DNS/IP lookups using **gRPC and Protobuf**, and reprovisioned the existing lookup pipeline for the WHOIS service to incur a **99.8% load decrease** by redirecting traffic to a feature cache.

Google *Waterloo, ON*

Software Engineering Intern (STEP) *May 2022 - Aug 2022*

- Contributed to an ML-based bug triaging tool that reduces SWE hours spent debugging integration and end-to-end tests by **15%**, by dynamically routing bugs and de-duplicating test failures.
- Engineered a feature generator that extracts test data from Google's databases and processes it to be ingested by a clustering module, improving existing clustering accuracy by **21%**.
- Implemented a **custom Go server** using **Pub/Sub queues, gRPC, and Protobuf** to communicate with other Google services, minimizing latency to **3700ms** (75% decrease from previous) per execution.

Volunteering

- **UW Blueprint** , *Technical Lead*. Directed a team to complete a management service using **MERN stack, Docker, Stripe** and a **RESTful API** for Focus on Nature, accommodating a user base of **20,000+ students** in Ontario.
- **UW Aerial Robotics** , *Systems Developer*. Developing an **Attitude and Heading Reference System** in **C** for STM32-powered autonomous aircrafts, researching different filters (Kalman, Madgwick) to increase attitude accuracy.
- **UW Orbital** , *Firmware Developer*. Creating drivers to interface with a **CC1120 temperature sensor** using **SPI communication (C++)**, and improved existing drivers for a **VN100 IMU's** communication with a STM32 MCU on a CubeSat.

Projects

- **Digitize** : A two-player desktop game written in **C++** based on Stratego, built with the **MVC design architecture, X11 graphics**, and modern C++ principles (RAII, different design patterns).
- **PaperTrade** : A paper trading desktop app to trade Stocks, ETFs, and Crypto built in **Python**, fetching data from the **MBoum API** and persisting user selections in **MongoDB**, with an interactive UI built with **TKinter** and **MatPlotLib**.
- **Odometry** : A **C++ multithreaded** odometrical VEX robot positioning system used in autonomous routines with PID-based movement algorithms, **22% more accurate** than built-in tracking.
- **FileTransferNetwork** : A network implementation in **C++** to send and receive files, emulating FTP with a client-server connection using **UDP control** and **TCP transmission**.
- **ChromaticNotes** : A web app to journal thoughts and emotions daily, built with **NextJS (React)** and **Chakra**, with **Firebase** authentication and Firestore storage for realtime data persistence/fetching.

Skills

Languages C++, Go, Python, C, Java, JavaScript, TypeScript, GraphQL, SQL, HTML/CSS

Frameworks React, Next.js, Node.js, Express.js, NumPy, Pandas, MatPlotLib

Other Git, Linux/Unix, Docker, Firebase, gRPC, Protobuf, MongoDB, PostgreSQL, SQLite3, Figma