

# Maneesh Wijewardhana

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## Education

### University of Guelph

BACHELOR'S OF COMPUTING, HONOURS COMPUTER SCIENCE (CO-OP)

Guelph, ON, Canada

September 2020 - April 2025

## Skills

**Languages** Python, Go, C, TypeScript, JavaScript, PHP, Java, Bash, SQL, HTML/CSS

**Technologies** Node.js, React, Express, Docker, Kubernetes, AWS, GCP, OAuth, PostgreSQL, MySQL, MongoDB, Terraform

## Work Experience

### Tulip Retail

Kitchener, ON, Canada

SOFTWARE DEVELOPER INTERN

January 2024 - August 2024

- Reduced onboarding and maintenance effort by 50% by designing and developing intuitive admin interfaces for a modular form builder using React and PHP, making form configuration self-serviceable
- Enabled precise CRM searches by integrating Apache Solr filters, allowing clients to refine results based on outreach history
- Improved data integrity in a multi-million record CRM system by optimizing SQL queries for better performance and creating queries to resolve duplicate records
- Eliminated manual Git SHA searches by prototyping a Terraform parser tool using Node.js, extracting deployment metadata from infrastructure code to accelerate debugging workflows for engineers
- Drove adoption across 100+ stores by iterating on customer feedback and demonstrating value to stakeholders, leading to 3 new client contracts for Customer Capture V2

### Tulip Retail

Kitchener, ON, Canada

SOFTWARE DEVELOPER INTERN

May 2023 - August 2023

- Eliminated form maintenance overhead by developing a modular customer form system called Customer Capture V2 using PHP and TypeScript, allowing full customization of widgets and layouts
- Cut frontend build times by 50% by leading the migration from Webpack to Vite, identifying key bottlenecks and optimizing the build pipeline to enhance developer efficiency
- Reduced developer context switching by creating a Mattermost editor plugin in Lua, allowing engineers to quickly format and preview messages within their code editor

### NCR Corporation

Waterloo, ON, Canada

SOFTWARE DEVELOPER INTERN

September 2022 - December 2022

- Enabled real-time data exchange for Teller Cash Recycling (TCR) machines by developing Java/Spring API endpoints with Kafka, ensuring seamless communication between banking systems and cash-handling hardware
- Accelerated feature implementation by designing high-level sequence diagrams, breaking down complex workflows into clear, actionable development steps
- Reduced manual testing reliance by implementing an automated Cucumber test suite, writing behavior-driven tests to improve test coverage and catch regressions early

### Distributive (Formerly Kings Distributed Systems)

Kingston, ON, Canada

SOFTWARE DEVELOPER INTERN

May 2022 - August 2022

- Achieved 85% test coverage by designing and implementing component tests for Compute, Wallet, and Protocol APIs in a distributed computing platform
- Enhanced cloud computing efficiency by contributing to core Node.js libraries for DCP (Distributed Compute Protocol)
- Developed a Ray tracing engine alongside a colleague for a company-wide hackathon, leveraging DCP's distributed processing power to accelerate image generation by approximately 50%, showcasing the potential of the platform

## Projects

### Homelab | K3s, Flux, kube-vip, Longhorn, Traefik, cert-manager, SOPS

[View](#)

- Built a self-hosted Kubernetes cluster running on Raspberry Pi 5 machines using the K3s distribution and Flux for GitOps
- Utilized kube-vip for load balancing, Traefik for reverse proxying and ingress handling, Longhorn for persistent storage across nodes, cert-manager for provisioning SSL certificates, and SOPS for secrets management

### Watch Together | Go, JavaScript, HTMX, Handlebars, TailwindCSS, S3, PostgreSQL, Docker

[View](#)

- Developed a real-time video streaming platform using WebSockets, enabling synchronized playback across multiple users
- Implemented secure OAuth authentication, video library management, and rate limiting with a Token Bucket Algorithm

### Pytoshop | Python, C, Tkinter, Pillow, NumPy, Matplotlib, OpenCV

[View](#)

- Built an image processing application with C-powered optimizations for transformations, filtering, and edge detection
- Used ctypes to integrate Python with a shared C library, significantly boosting processing efficiency

### Mash | C

[View](#)

- Designed a cross-platform, bash-like shell supporting foreground/background processes, piping, and file redirection
- Implemented variable substitution, filename globbing, and robust interprocess communication