

## TECHNICAL SKILLS

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<b>Programming/Scripting</b>	C/C++, Java, Javascript, Python, SQL, Racket/Lisp, Haskell, R, Bash
<b>Tools/Technologies</b>	HTML/CSS, Bootstrap, Git, LaTeX, Firebase, MySQL, React.js, Node.js, UML

## EXPERIENCE

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<b>Cisco Systems</b>	<b>Ottawa, ON</b>
Software Engineer	Jan, 2022 - April, 2022

- Collaborated with the Mass-Scale Infrastructure Group to work on XR development for Layer 3 forwarding of the Cisco 8000 router.
- Ensured consistent and stable feature releases for Ip-in-Ip Encapsulation/Decapsulation tunnels.
- Improved and enabled over 30% of the inactive functions for a part of the internal Layer 3 forwarding information base.
- Improved the run time of a traffic generator by 50% and increased the connection speed for said traffic generator.
- Replaced manual verification by designing a system for router CLI verification using Google's TextFSM.

<b>Waterloop, a hyperloop team</b>	<b>Waterloo, ON</b>
Software Developer	Aug, 2021 - Current

- Independently designed a built-in self testing interface used on the hyperloop pods reducing testing time by 40%.
- Employed systems design techniques to form a command-line tool that allowed engineers to measure current and voltage.
- Collaborated with other team members to rigorously test the firmware using tools and technologies including **C, Python, and Git**.

<b>Strauss Event &amp; Association Management</b>	<b>Winnipeg, MB</b>
System Integration Coordinator	April, 2021 - Aug, 2021

- Saved the company **\$3000** every quarter by designing a script to automate report generation using SQL, eliminating temp workers.
- Reduced quarterly report time by one week for HR managers by implementing a Python application to query billable information.
- Conducted research revolving project management ideologies for national associations such as the Canadian Jewellers Association.

## PROJECTS

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<b>QuickChat</b> , Real-time Chat Application	<a href="https://romantic-heyrovsky-3c637f.netlify.app">https://romantic-heyrovsky-3c637f.netlify.app</a>
<ul style="list-style-type: none"><li>• A chat room web app that allows users to join a room with a room key both anonymously or as a sign-in user.</li><li>• Developed a real time chat application utilizing technologies including <b>React and Firebase</b>.</li><li>• Provides optional authentication methods including Google Sign-in or Username and Password from the webapp.</li></ul>	

<b>kefancao.com</b> , Numerical Methods Research!	<a href="https://kefancao.com">https://kefancao.com</a>
<ul style="list-style-type: none"><li>• A portfolio website demonstrating past projects and some numerical methods research I've done!</li><li>• Provides a brief mathematical introduction to everyday features such as Google's page rank algorithm and jpeg compression.</li><li>• Implemented multiple scripts demonstrating a minimal loss, 4 to 1, image compression using Fourier Transforms.</li></ul>	

<b>QuickType</b> , Typing Test Web App	<a href="https://quicktype.tech">https://quicktype.tech</a>
<ul style="list-style-type: none"><li>• Designed a typing test website that supports timed typing tests which gives an accurate adjusted word per minute to the user.</li><li>• Utilized <b>React and Firebase</b> (to store user history) to incorporate dynamic styling for error detection.</li></ul>	

<b>River Deliver</b> , Founder (2020 Summer Company Winner)	<b>July 2020 — Aug 2020</b>
<ul style="list-style-type: none"><li>• A grocery delivery/errands company, winner of a \$3000 Entrepreneurship Fund from a pool of 70 applicants.</li><li>• Developed a fully functional ordering web app using React, Firebase, and Email.js to attract over 100 users per month.</li></ul>	

## EDUCATION

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<b>Bachelor of Computer Science</b> , University of Waterloo, GPA: 93%	<b>Sept 2020 — June, 2025</b>
<b>Coursework:</b> Object-Oriented Software Development - 100%, Advanced Algorithmic Design - 100%, Functional Program Design - 96%, Sequential Programs - 99%, Linear Algebra - 97%	

## AWARDS & HONORS

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<b>2020</b>	Ontario Entrepreneurship Award ( \$3,000 ); President's Scholarship( \$2,000 )
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