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Kefan Cao
Software Engineer

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TECHNICAL SKILLS

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

EXPERIENCE

Cisco Systems   **Jan, 2022 - April, 2022**
Software Engineer   Ottawa, ON

- 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.

Software Developer   **Aug, 2021 - Current**
Waterloop, a hyperloop team   Waterloo, ON

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

System Integration Coordinator   **April, 2021 - Aug, 2021**
Strauss Event & Association Management   Winnipeg, MB

- Developed documentation revolving project management software(ClickUp and Asana) for national associations.
- 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.

PROJECTS

QuickChat, Real-time Chat Application   https://romantic-heyrovsky-3c637f.netlify.app
- A chat room web app that allows users to join a room with a room key both anonymously or as a sign-in user.
- Developed a real time chat application utilizing technologies including **React and Firebase**.
- Provides optional authentication methods including Google Sign-in or Username and Password from the webapp.

kefancao.com, My portfolio website!   https://kefancao.com
- A portfolio website showcasing myself and some of my skills and projects.
- Utilizes **CSS** 3D transformations to create animated objects such as business cards and project cubes.
- Applied concepts of Linear Algebra and Trigonometry in combination with **React** to achieve animation.

QuickType, Typing Test Web App   https://quicktype.tech
- Designed a typing test website that supports timed typing tests which gives an accurate adjusted word per minute to the user.
- Incorporates dynamic styling to indicate if typed correctly.
- Created using a combination of **React and Firebase** (to store user history).

River Deliver, Founder (2020 Summer Company Winner)   July 2020 — Aug 2020
- A grocery delivery/errands company, winner of a $3000 Entrepreneurship Fund from a pool of 70 applicants.
- Developed a fully functional ordering web app using React, Firebase, and Email.js.
- Attracted over 100 users/customers throughout the summer.

EDUCATION

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

AWARDS & HONORS

2020   Ontario Entrepreneurship Award (**$3,000**); President's Scholarship(**$2,000**)