

# Naman Sood

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## SKILLS

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**Languages** JavaScript, Go, Rust, C++, C, Python, Scala, HTML/CSS, Shell, Haskell  
**Technologies** Git, Docker, Kubernetes, AWS EC2/S3, gRPC/Protobuf, React, SQL, MongoDB, Firebase

## EXPERIENCE

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### Carta

Sep 2021 – Present

*Software Engineering Intern, Infrastructure – Kitchener, ON*

- Reduced Docker image build times by 10x by simplifying package requirements and allowing precompiled dependencies.
- Enforced standardization of Protobuf definitions for over 100 services by designing static analysis and refactoring tool in Go.

### Tailscale

Jan 2021 – Apr 2021

*Software Engineering Intern – Toronto, ON*

- Improved compatibility with LXC containers by providing in-process TCP/IP and link-layer emulation, using Google gVisor.
- Enabled standardized communication using SOCKS5 protocol over Tailscale VPN by implementing proxy server in Go.
- Simplified deployments in cloud environments by creating single-session authentication keys with auto-cleanup.
- Enabled clients to secure CI/CD pipelines by creating a GitHub Action ([link](#)) that allows workflows to use Tailscale VPN.
- Expanded outreach within the technical community by writing long-form content for corporate blog ([link](#)).

### University of Waterloo

May 2020 – Aug 2020

*Research Associate, Sirius Blockchain Research Group – Waterloo, ON*

- Improved throughput of Go blockchain system by 3x by increasing maximum number of transactions sent in each message.
- Streamlined deployment of project by using Docker images to generate repeatable builds across diverse environments.
- Unified similar codebases by migrating duplicate components to a single C++ project.
- Assisted distributed systems research by conducting experiments on AWS EC2 and analyzing performance data in gnuplot.

### Creesync Software

May 2019 – Aug 2019

*Software Engineering Intern – New Delhi, India*

- Simplified distribution of professionally clicked photos by building Electron and React Native apps.
- Designed and deployed API to upload and preview photos in low-bandwidth situations using Node.js and AWS S3.

### The Girl Code

Mar 2018 – Apr 2020

*Volunteer Full Stack Developer – New Delhi, India*

- Developed online platform to teach Python programming in 10+ workshops across 3 countries, using Node.js and MongoDB.

## PROJECTS

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### CHIP8-rust ([link](#)) Rust

Emulator for CHIP-8 microprocessor. Simulated behavior of machine instructions with Rust, created graphics in framebuffer.

### Turtle Shell ([link](#)) C, POSIX APIs

Shell for Unix operating systems in C. Learned memory management, process management, and usage of POSIX interfaces.

### cmdmap ([link](#)) Node.js

Node module to map CLI programs to a JSON API. Designed abstraction over standard library features for improved security.

### Prose ([link](#)) Go, HTTP, systemd

Designed HTTP server with hooks for logging, routing and error handling, with systemd service for uptime and observability.

## EDUCATION

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### University of Waterloo

Sep 2019 – Apr 2024

*Bachelor of Computer Science – 92.3% average*

- **Awards and Honors:** \$15,000 Computer Science Upper Year Scholarship, Dean's Honors List
- **Relevant Coursework:** Data Structures, Object-Oriented Programming, Applied Cryptography