Shivansh Vij

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SKILLS

- Languages: C, C++, Go, Javascript, Python, Ruby, C#, Java, Rust, Bash
- Frameworks: OpenCV, Tensorflow, Selenium, Vue.js, Nuxt.js, React.js, Next.js, Jest.js
- Technologies: Kubernetes, OpenShift, Docker, VMWare, PostgreSQL, MongoDB, Firebase

EXPERIENCE

Banyan Security | Software Engineering Intern

May 2020 - Present

• Utilized **Go** to integrate the ACME Protocol within a **zero-trust reverse proxy** for which allowed for automatic provisioning of SSL certificates with Let's Encrypt using HTTP-01 or TLS-ALPN challenges

IBM | Software Engineering Intern

Sept. 2019 - Present

- Designed and shipped a complete **browser-based development environment** which includes access to an IDE, Kubernetes and OpenShift clusters, and a container registry, and was **used during Kubecon** and IBM Think to educate 2000+ users across the world
- Employed TypeScript, Helm, and Redis to create scalable containerized microservices for provisioning and managing user environments in multi-tenant Kubernetes clusters for more than 1.6 million users
- Implemented **dynamic overprovisioning** by employing a custom version of the cluster autoscaler and customized horizontal pod scaling patterns which **reduced loading times for user environments** by 85% and monthly operating costs by 72%

IBM | Site Reliability Engineering Intern

April 2019 - Sept. 2019

- Orchestrated the redesign and migration of existing Rancher-based tooling to Kubernetes to improve user launch times by 46%, service 300K new users, and reduce operating costs by 15% Coordinated the entire development lifecycle of an Open-Source Ruby Gem for the management
- of OpenShift and Kubernetes clusters, which is currently being used to service 3.5 million learners at companies like Shell, Disney, Redhat, Scotiabank, and RBC
- Transitioned team to practice **Infrastructure as Code** by using **Helm, Terraform, and Ansible** for automatic provisioning, syncing, and testing of our team's production and staging environments

IBM | DevOps Intern

Jan. 2019 - April 2019

- Utilized chaos engineering concepts to harden Kubernetes and OpenShift clusters against network latency and resource saturation which increased infrastructure stability by 18%
- Researched and developed scalable, fault-tolerant computing and networking infrastructures for production-ready OpenShift clusters on Bare Metal and VMWare vSphere which was used by multiple teams at IBM, Cisco Networks, and the US Armed Forces

PROJECTS

Lynk | https://lynk.sh

Nov. 2019 - Present

- Engineered a novel reverse tunneling protocol to securely expose local TCP and HTTP services to the web with support for Websockets and HTTP/2 without any changes to the existing network or firewall
- Extended raw TCP sockets and implemented stream compression to achieve 6x faster website load times than other similar services when measured using a RUM Speed Index and Google Lighthouse Utilized load-balancing concepts from Kubernetes to scale and service 1200+ concurrent users/day Technologies Used: Firebase, Go, MongoDB, Node.js, Vue.js, Nuxt.js

Parasite | https://parasite.sh

Feb. 2020 - Present

- Design an Open-Source proxy to record and replay intercepted HTTP traffic via REST API or frontend
- Compiled project as a standalone or an NPM module **embeddable in any project with 2 lines of code** *Technologies Used: Node.js, Express.js, Vue.js, Nuxt.js, Jest.js*

EDUCATION

UNIVERSITY OF WATERLOO | B.A.Sc Computer Engineering

Sept. 2017 - April 2022

• Coursework: Compilers, Software Design and Architecture, Data Structures and Algorithms Computer Architecture and Processor Design, Systems Programming and Concurrency