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 implement the ACME Protocol and an embedded HTTP-01 challenge server which is used in a **zero-trust reverse proxy** for automatic provisioning of SSL certificates through Let's Encrypt

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 | Software 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

- Researched and developed **scalable, fault-tolerant computing and networking infrastructures** for production-ready OpenShift clusters on Bare Metal, VMWare vSphere, Digital Ocean, and IBM Cloud
- Documented an example install process for OpenShift 4 on VMWare vSphere and Bare Metal, which was **used by 7 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 by optimizing raw TCP sockets and implementing 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 service and **serve 1200+ concurrent users**

Technologies Used: Firebase, Go, MongoDB, Node.js, Vue.js, Nuxt.js, TCP Sockets

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