SHIVANSH VIJ

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WORK EXPERIENCE

IBM | Software Engineer

January 2019 – August 2019 | Markham, ON

- Managed the entire development lifecycle of a **Ruby** Library for the operation of **Kubernetes** or **OpenShift** clusters from within Ruby Applications - **Open Sourced and Available on RubyGems**
  - Integrated into existing site architecture to reduce loading times by 82% (from 1.42 seconds to 0.26) and increase site reliability by 46%
- Oversaw the planning and migration of a petabyte of user data from a fixed-size NFS to a dynamically resizable **GlusterFS** Drive
  - Created a custom parallel rsync script in **Bash** to decrease data migration times by 76% (from 30+ hours to 7.5 hours) while the drive was in use and the data was still being modified
  - Designed and implemented a unique **load-balancing** solution to mount data over the standard NFS protocol while speeding up sequential reads by 12% and sequential writes by 4%
  - Built a usage monitoring tool using **Python, Ansible,** and **Terraform** to scale the Gluster cluster up or down depending its usage
  - Leveraged full-stack development experience to design and ship a customizable Gluster events monitoring tool using **Vue.js** and **MongoDB** which can be deployed on **Kubernetes** using **Helm** **Open Sourced and Available on Github**
- Worked with multiple teams to architect the computing and networking infrastructures for our team's production **OpenShift** Cluster
  - Documented an example install process on **VMWare vSphere** or **Bare Metal** hardware which was used by 7 other teams at IBM
- Leveraged **Hyperledger Indy** as well as **C++** and **OpenCV** to build a platform to trace pharmaceuticals from manufacture to prescription as an initiative to tackle the growing opioid crisis in North America

OPENTEXT | Software Developer

May 2018 – August 2018 | Waterloo, ON

- Applied **Python, PyWinAuto,** and **Selenium** to develop a custom Automated UI Testing Framework which successfully reduced faulty crashes and saved over 300 Compute-Hours per week
- Led the design and implementation of a Predictive AI using **Tensorflow** and **SciKit** to understand automated testing crashes and highlight culpable commits to decrease debugging time by 30-40%
- Employed **Node.js** to create a **REST API** for modifying, training, and using the AI over a web interface

PROJECTS

NEURAL NETWORK | Feed-Forward Neural Network in C++

Dec 2017 – Mar 2018

- Researched and Developed an efficient Neural Network Algorithm for primary use in **Embedded Systems** without external libraries
- Modularized Training and Prediction algorithms to allow users to specify entire network topology at runtime

C/C++ CROSS COMPILER | For Embedded IoT Systems

Sept 2017 – Nov 2017

- Developed a custom **C/C++ Cross Compiler** for embedded IoT Systems
- Utilized **Bash** and **Docker VMs** to streamline installation and standardize development environments
- Successfully reduced the compiler size by 85% (from 25GB to 4GB) by improving compiler dependencies

PROFILES

shivanshvij.com
github.com/shivanshvij
linkedin.com/in/shivanshvij
medium.com/@shivanshvij
rubygems.org/ShivanshVij

SKILLS

Languages

C++	Ruby
Python	Java
C	Bash
JavaScript	PHP
Go	Assembly
SQL	Rust
C#	LaTeX

Frameworks and Technologies

TensorFlow	PostgreSQL
OpenCV	Docker
Selenium	Kubernetes
Firebase	OpenShift
Node.js	VMWare
Vue.js	Helm
MongoDB	TravisCI
Hyperledger	CircleCI

EDUCATION

UNIVERSITY OF WATERLOO

BA.Sc Computer Engineering

Waterloo, ON • Expected April 2022

COURSEWORK

UNDERGRADUATE

Object Oriented Software Development

Digital Circuits and Embedded Systems with Hardware Design

Computer Architecture and Processor Design (ARM Cortex)

Design and Analysis of Electronic and Linear Circuits

Unix Tools and Scripting

Embedded Microprocessor Systems

Linear Systems and Signals