

## Saumitra Kulkarni

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### WORK EXPERIENCE

Around: 5+ Years

#### **Nutanix Technologies**

*Member of Technical Staff - II*

Aug 2023 – Present

- Part of the Nutanix "Move" product team, focusing on migrating VMs and files from various environments to Nutanix solutions.
- Engineered a critical vSwitch conversion system as part of in-place ESXi-to-AHV cluster conversions, orchestrating seamless hypervisor migration on existing hardware with multiple distributed vSwitch reconfiguration, including coordinated rolling restarts, to enable zero-downtime network transitions and eliminate maintenance windows for production workloads.
- Delivered IPv6 support in Nutanix Move, enabling cross-platform VM migrations with static IPv6 addressing; solved a critical ask from 20+ government and enterprise customers and enhanced product readiness for IPv6 adoption.
- Designed and implemented a centralized service orchestration system for 17+ Dockerized components in Nutanix Move, enabling API-driven lifecycle management (START/STOP/RESTART) without appliance access—cut manual operational overhead by 70%.
- Developed the following key features for Hyper-V to AHV migration path, used by around 15% of our customers:
  - Custom Port for Hyper-V Agent: Enabled the Hyper-V agent to run on a custom port, providing greater flexibility and control during migrations
  - vTPM Device Support: Added support for migrating VMs with attached vTPM devices, ensuring secure and seamless transitions from Hyper-V to AHV environments.
- Collaborated with the security team to address critical vulnerabilities in key packages and containers.
- Resolved significant customer-reported defects, including disk ordering issues, network restoration problems, and kernel panic incidents after VM migrations.

#### **Druva Data Solutions**

*Software Engineer*

Nov 2021 – Aug 2023

- Project Hydra: Streamlined and integrated the monolithic authentication service with global services to support multi-region deployment. Transferred CRUD workflows for customer and license management from the monolith authentication service to the global customer service.
- Worked on low-level design for MSP customer's single sign-on to accomplish critical security compliance requirements for administrator login.
- Achieved migration of around 15000 customers and license entities to global service within 5 mins using threading and batching mechanism with idempotency with python script.
- Optimized existing bulk listing APIs to achieve 10 times faster performance across the Druva Products ecosystem.
- Added a middleware layer in REST server framework to execute pre/post API request tasks.
- Developed a python SDK for global service based on SOA architecture as a microservice consumable.
- Evolved UT mocker with the ability to mock event-driven framework (AWS SQS and SNS mechanism) for Unit Testing, increased the code coverage by 50 percent.

#### **Seagate Technology**

*Software Engineer - I*

July – Nov 2021

- Implemented a feature to shut down s3 services gracefully, to reduce read/write operation failures and increase HA
- PoCs and development support to migrate s3server components from RedHat PCS cluster to Kubernetes environment
- Completed PoC to deploy OpenLDAP database (stateful service) in PCS cluster and K8s environment
- Improvised various phases in MINI-PROVISIONING for s3server component of CORTX - Intelligent Object storage system in python and shell.

*Software Engineer Intern*

July 2020 – June 2021

- Worked on PoCs on high availability and load balancing for the cluster to reduce the downtime and increase availability - HaProxy, KeepAlived, CTDB.
- Added enhancement to benchmarking tools like s3bench to validate read/write/delete operations.
- Enhanced a metadata dumping tool for s3 buckets and objects in MOTR component.

## EDUCATION

### **Vishwakarma Institute of Information Technology**

*Bachelor of Technology in Computer Engineering*

CGPA: 9.75

Pune, Maharashtra

2017-2021

### **RYK College of Science**

*Higher Secondary Certificate Examination*

Percentage: 83.38%

Nashik, Maharashtra

May 2017

### **RJEMHS, Nashik**

*Secondary School Certification*

Percentage: 92.20%

Nashik, Maharashtra

May 2015

## TECHNICAL STRENGTHS

- Technologies: Linux, MySQL, SQS and SNS, Redis, Docker, Flask and pytest framework, OpenLDAP, Kubernetes, REST, Networking
- Languages: python, C/C++, Golang, SQL, Shell, Java, JavaScript, HTML, CSS
- Tools: Git, JIRA, Confluence, Vim editor, PyCharm, GoLand, MS office, Jupyter Notebook
- Courses: Introduction to Data Science in Python, Interacting with OS using python, Linux for Developers.

## PAPER PUBLICATIONS

*Author - Saumitra Kulkarni, Rahul Jyoti*

- “A Survey on Different Storage Architectures.” Journal of the University of Shanghai for Science and Technology. It provides a survey of different storage architectures which are currently used by a lot of enterprises.

## PROJECT WORK

### **URL Shortener - (Rest API to shorten URLs)**

- URL shortener is a simple flask-based rest server app that returns shortened URLs that can be shared easily on social media platforms to avoid cluttered/bulky texts. This application can be deployed on a docker setup or actual server. Defined unit tests that ensure code correctness which covered 90 percent of code.

### **NOC Optimization (Web App) – Online System for NOC**

- NOC (No Object Certificate) is a certificate in the college for every student which is approved or rejected by the teacher for submissions so that, students can appear for examinations without any objections. This application moved the whole paper-based system to an online application which saved paper and chaos at the time of submissions. Tech Stack: Django, MySQL server, Vue JS, and python.

### **Gesture Controlled Media Player**

- This project provided a hands-free media experience to control desktop media applications using hand gestures on Desktops and Laptops. It involved the use of Arduino and Ultrasonic sensors to read distance data and convert it into gestures using C and python language.

## CO-CURRICULAR WORK

### **CyberCell, VIIT**

Learned about various cyber-attacks and cyber tools. Held VishwaCTF competition with CyberCell team.

### **Machine Learning Forum, VIIT**

Member of the forum and participated in activities like creating awareness about machine learning and learning new algorithms.