Chaynika Saikia

Software engineer, problem solver, interested in designing and scaling distributed systems.

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EXPERIENCE

NVIDIA Corp, Santa Clara, CA — *Senior Software Engineer*

MAY 2018 - PRESENT

- **NVIDIA GEFORCE NOW on GN2:**
  - Created a **Kubernetes device plugin** to enable disks and RAID controller passthrough to a Kubevirt VirtualMachineInstance using Golang.
  - Critical in **migrating** Nvidia GeForce Now from Xen infrastructure to Kubernetes. This involved understanding of libvirt/qemu, understanding technical requirements from old Xen based infrastructure and converting them to new Kubevirt-K8s based infrastructure. Designed performance class specs by translating from libvirt VMs to Kubevirt VMs. Also added design changes to services running on gameseat instance to run in new infrastructure.
  - Automated various manual processes and converted them to Jenkins jobs (Jenkins pipeline, YAML, Python).
- **NVIDIA GEFORCE NOW (Linux gameseat):**
  - Worked on the MVP project to enable game streaming from a Linux VM. Had complete ownership of Linux VM image, startup service (C++), storage libraries and automation used for the project.
  - Added CIS-CAT hardening Ansible roles to the Linux (Ubuntu) VM generation process. This was later extended to all service VMs running Linux. Achieved score > 80% after implementing hardening.
  - Created a service to collect all system metrics of the Linux VM instance at regular intervals.
- **NVIDIA GEFORCE NOW (Windows gameseat):**
  - Actively developing features and fixing bugs for the startup service run in the Windows gameseat VM.
  - Developed a tool using Windows API and NvAPI to configure display as an alternative to the Microsoft DisplaySwitch tool.

PROGRAMMING LANGUAGES

Python, C++, Golang, Java

OPERATING SYSTEMS

Ubuntu, CentOS, Windows, Solaris

VIRTUALIZATION

Xen, KVM, Kubevirt, Kubernetes

TOOLS

Packer, Ansible, Jenkins, Protobuf, cloud-init, rsyslog, Kibana, RabbitMQ

STORAGE/DATABASES

NFS, CIFS, ZFS, LVM, Ceph, ZFSSA, MySQL

GET IN TOUCH

Red Hat Inc, Raleigh, North Carolina — *Software Developer Intern*

MAY 2017 - AUG 2017 and JAN 2018 - MAY 2018

- ➔ **OPENSTACK CINDER (BLOCK STORAGE) CLI:**
  - ◆ Developed new polling feature while volume creation operation completes. This was helpful for large volumes that take time to be created.
  - ◆ Added asynchronous error messages to Cinder back-end to detect failures in volume creation using CLI.
  - ◆ Added feature to Cinder volume encryption key manager to migrate keys from Castellan to OpenStack Barbican.
- ➔ **OPENSTACK CINDER BACKUP:**
  - ◆ Redesigned and fixed broken code to support Ceph RBD driver for incremental backup.
  - ◆ Fixed issues with block storage incremental backup feature for multiple large concurrent backups by adding multi-threading.

Amagi Media Labs, Bangalore — *SDET*

MAR 2016 - JUL 2016

- ➔ AMAGI MIX
  - ◆ Developed a test automation framework for testing APIs for Amagi Mix in Cucumber BDD and Ruby.

Oracle Corporation, Bangalore — *Software Engineer*

JUL 2013 - MAR 2016

- ➔ ORACLE SOLARIS CLUSTER
  - ◆ Added a test automation suite for Cluster Geographic Edition with ZFS Storage Appliance and Apache web server, Solaris zones and zone clusters.
  - ◆ Added Fuzz testing for Solaris Cluster to detect security vulnerabilities for command line client.
  - ◆ Acquired good grasp over Distributed Systems, SCSI/iSCSI, NAS/SAN, Virtualization, Disaster Recovery. Added test suites to reduce testing time by over 95%.

EDUCATION

Arizona State University, Tempe, AZ — *Masters of Science, Computer Engineering (Computer Systems)*

AUG 2016 - MAY 2018

Multimedia and Web Databases, Statistical Machine Learning, Artificial Intelligence, Foundations of Algorithms, Mobile Computing, Advanced Memory Systems, Software Security

National Institute of Technology, Silchar, India — *Bachelors in Technology, Electrical Engineering*

AUG 2009 - MAY 2013

Computer Organization and Architecture, Microprocessors I & II, Data Structures and Algorithms