**HARI SUNDARARAJAN**

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**professional summary**

Masters graduate in High Performance Computing

Career progression through site reliability engineering and cloud devops mastery

**tech stacks worked on:**

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| * **Scripting**: bash, python * **Metrics gathering**: InfluxDB, collectd * **Configuration management**: Ansible, Salt, PXE * **Virtualization**: KVM/qemu/proxmox, Xen, VMware, VirtualBox * **Security**: SSH, Vault, iptables, ufw * **Cloud Tools**: AWS (VPC, EC2, ECR, S3, Route53, ELBs, CloudFormation, CodeDeploy), Terraform, Packer, Vagrant * **Continuous Integration**: Jenkins * **Build systems**: Make, scons | * **System performance**: sar, iostat, wireshark * **Monitoring**: Monit, Supervisord, Kibana, systemd, docker-compose * **Containerization**: docker, nvidia-docker, kubernetes, mesos * **Source Control**: Git (gitlab/github), SVN, perforce * **Frameworks**: Django/Flask, celery, rabbitMQ, nginx * **Integrations**: Slack, JIRA, Atlassian Suite * **Package Management**: Apt, yum, packagecloud, pip/setuptools/distutils |

**work history**

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| **Cloud Automation and DevOps Lead** | *Sep 2018 - Current* |
| **NVIDIA Corp: Deep Learning Institute** | *USA* |

* Designed, Integrated, Implemented and supported multiple cloud services to deploy courses worldwide
* Automated, monitored and scaled deployments across multiple cloud services such as VM Pooling and shared file systems
* Enabled students submission and validations through redis based clery task queues and Python Flask framework
* Designed containers with PyTorch using docker / docker-compose for course content and assessments
* Introduced Git-tagging best practices through enforcing SemVer
* Solved performance and scaling issues such as slow startup, memory usage and mining abusers
* Guided third party developers on edX based learning management System for GPU workloads using Jupyter notebooks

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| **Dev Ops and Site Reliability Engineer** | *July 2016 –Aug 2018* |
| **NVIDIA Corp: GPU CLOUD** | *USA* |

* Designed and implemented rules and policies for version control best practices in Git, across distributed sites / timezones
* Automated complete working dev environments set up using salt.
* Automated build/test solutions using Docker and k8s on AWS / on-prem bare metal solutions
* Implemented orchestration services on virtualized environments using XenApi
* Built poc’s and Bench marked automated pipelines such as TravisCI, GitlabCI and Jenkins
* Managed 400+ DGX servers via upgrades, patches and reimages through Ansible and monitoring system metrics using influxDB and Graphana
* Implemented Code base Support (in C++, python and go) to compile and build across Ubuntu 14, Ubuntu 16, Ubuntu 18 and Red Hat 7.
* Migrated services and Bash/Python to SystemD to support new GCC compilers and Bash/Python modifications to support parsing of system tools
* Installed multiple integration scripts for Slack, email, JIRA and REST APIs
* Used Packer for automated flows for GPU based solutions
* Implemented multiple network security features and monitored Security Incidents for cloud security hardening

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| **Cluster Systems Engineer** | *June 2013 –July 2016* |
| **Intel Corp: Intel Cluster Ready** | *USA* |

* Primary/lead developer for IntelQR Cluster Checker Version 2.2 (systems diagnostic tool for health monitoring of HPC clusters)
* Solved Cluster Issues utilizing the expert system based approach
* Built infrastructure for using virtual machines and environments
* Integrated IntelQR and Cluster Checker and GEmeter
* Developed internal products such as scans for IP leaks, copyright and license violations.

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| **System Validation Engineer** | *Mar2012 –June 2013* |
| **Intel Corp** | *USA* |

* Set up and follow-up of system validation environment and test suites
* Application of various platform-level tools and techniques for performance monitoring
* Developed methodologies for the validation process
* Liaison with architecture teams, design teams, pre-silicon validation teams and operating system teams
* Automated frameworks for high volume testing, data collection and analysis
* Developed and bench marked GPU content for performance in an embedded SoC environment using real time operating systems

**Personal Projects**

* Homelab - Built and maintain a virtualization environment at home, serving as a playground for testing and learning system ad ministration, virtualization configuration management tools, networking, reverse proxies, VPN, High Availability, load balancing, distributed / network file systems.
* Home Automation - Integrated multiple home automation technologies (REST based thermostat APIs, SOAP based power control) through python APIs and maintain mobile-compatible web front ends using Python modules such as Flask, Requests and Urllib.
* Cluster Construction - Built, installed and maintained a 8 node cluster with progressive support for 20 nodes based on ROCKS, including its full documentation
* Advanced tutoring - Contributed to codes with Matlab, Mathematica and web based portals like WebAssign and MyMatlab to visualize graphs and ease learning process

**Education**

MS, Computer Engineering *2011,LSU, USA*

BS, Computer Engineering *2008,LSU, USA*