

DATTARAM MIRUKE

AWS DevOps Architect

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SUMMARY

DevOps professional with over 30 years of experience in infrastructure and product development, expert in cloud-native architectures and CI/CD automation. Key achievements include a 20% reduction in build-release cycle and a 30% improvement in system robustness through chaos engineering at Cisco Systems. Seeking a Senior Developer Enterprise Search & Elasticsearch position at [company name], where I bring my infrastructure and product development skills to support your mission of enhancing search engine solutions and leveraging AI/ML technologies.

EXPERIENCE

AWS DevOps Architect

CyberOne

📅 12/2024 - Present 📍 Remote

- Part of a team assisting migration from **on-prem to AWS cloud migration** for an **Enterprise Customer**
- **Terraform** and **GitHub** Actions based CI/CD pipelines
- **Developed enterprise-wide standards**, templates, & libraries, incorporating best practices
- Developed **enterprise-wide standards**, best practices for **Containerization & orchestration in Kubernetes clusters**
- Leading the efforts to build **ECS & EKS production clusters** for enterprise applications
- **Skills:** AWS, Containers, Docker, Kubernetes, ECS, EKS, GitHub Actions, Terraform, Python

Senior DevOps Engineer

Amazon

📅 02/2023 - 11/2024 📍 Remote/Sunnyvale, CA

- Led **end-to-end design and implementation of CI/CD pipelines** for Amazon Kuiper, for **multiple FPGA projects reducing build and deployment times**.
- **Collaborated with FPGA design/testing teams** to **streamline integration** of artifacts and test suites, ensuring smooth and timely deliveries.
- **Containerized (long duration) FPGA builds & optimized AWS infrastructure** by extensively utilizing various AWS services. Technologies (**ECS, ECR, Step & Lambda**), resulting in a 20% reduction in resource provisioning time.
- **Developed robust, scalable CDK-based infrastructure stacks** using Python and Typescript, **improving build-release efficiency**
- Built **fault-tolerant, resilient systems** by automating pipeline monitoring and scaling mechanisms, significantly reducing manual intervention.
- **Skills:** Python, Typescript, Golang, Bash, leveraging these skills in various aspects of pipeline development and deployment. AWS compute, storage, container & orchestration services (EC2, S3, AMI, ECS, ECR, EFS, Lambda, SNS, SQS, Stepfunctions), Dev tools -AMS, Gitfarm, CodeCommit, Codebuild, CodeDeploy, Codepipeline), CloudWatch, AWS CDK

Senior CI/CD & DevOps Engineer

Cisco Systems Inc

📅 08/2019 - 11/2023 📍 Remote/San Jose, CA

- Architect-ed, built, deployed & managed the **CI/CD and deployment pipelines** for Cisco's **MSX (Managed Service Accelerator)** a key component of Cisco's SDWAN back-haul connectivity solutions for enterprises.
- Handled management, deployment, and troubleshooting of **micro services, Docker containers, and Kubernetes** clusters across various product pipelines, leveraging **OpenStack** and **AWS**.
- Infra deployment using **Terraform, Ansible**, Designed and executed **performance and resiliency tests** for SDWAN pipelines, ensuring flawless deployment of physical and virtual devices, which **increased system resiliency by 25%**.
- Created **custom tools, CRD & custom controllers**, for **Chaos Engineering test** suites, for increasing the **robustness of Docker/Kubernetes clusters by 30%** and integrating them into CI/CD pipelines for automated stress/resiliency testing. Was able to find, investigate and **fix numerous issues related to scalability & resiliency of the cluster**.
- Developed specialized tools for testing **robustness** and **resilience** of Docker and Kubernetes clusters as part of a Chaos Engineering methodology, integrating these tools within CI/CD pipelines.
- Conducted **Load Simulation Generation**, Execution, and Debugging, utilizing **REST API** calls to MSX, and employing Gatling DSL and Scala for simulation creation.
- Proactively analyzed and resolved complex defects in high-availability environments, improving application uptime by 15%. Worked on evaluating CI/CD platforms to replace Jenkins
- Built a **CLI interface**, using the MSX REST API, for many administrative tasks, as part of yearly **Hackathon**
- **Skills:** Harness, GitHub Actions, GitLab & **Jenkins-X**. OpenStack, AWS Compute services, Kubernetes, Docker, Ansible, Python, Helm, CloudFormation, AWS Logging/Monitoring, Terraform, Artifactory, Bash, CentOS/Debian, Jenkins, GitLab, Groovy, Prometheus, Grafana, DataDog, Cassandra, CockroachDB, ELK Stack, Kafka/Zookeeper, Micro-services, Chaos Engineering, ETSI/NFV, SDN, micro-service flow debugging, Chaos toolkit, and Golang

EXPERIENCE

Worked with a small team (AIXIA) to build a Video Analytics system

Aixia Global

📅 01/2019 - 12/2020 📍 Remote/Roseville, CA

- 2019-2020 worked with a small team (AIXIA) to build a Video Analytics system, to be included in the drones, for detection of Anomalous situations or behaviors like Oil leak detection, Thefts or any anomalous events
- Technologies: Trained model based on foundation YOLO model; TensorFlow, CUDA, Tensorflow, PyTorch

Senior DevOps Architect

Williams Sonoma

📅 10/2017 - 07/2019 📍 Rocklin, CA

- Architect-ed and implemented an **enterprise-wide alerting and monitoring system** using **Nagios XI**, improving incident response times by 40% and enabling seamless **collaboration between application platform, security, and networking team**
- Led the design of **On-Premises Cloud Architecture**, ensuring scalability and high availability for mission-critical systems
- Delivered a **Proof of Concept (POC)** for **OpenStack** leveraging Docker, Kubernetes, and Helm, which accelerated the evaluation process of cloud platforms by 30%.
- **Collaborated** with **SRE, network security, and application teams** to **integrate a robust monitoring system**, cutting downtime by 25% through proactive incident resolution and troubleshooting.
- Designed and deployed an **asset management system using Tenable/Nessus REST API and Python frameworks** like Flask, & SQL, reducing asset tracking time by 50% and improving data visualization with ELK
- Created custom **NagiosXI plugins and dashboards**, streamlining monitoring for middle-ware and applications (e.g., **TIBCO/JMS**), reducing application outages by 20%
- Built a **Python-based Linux service with Django and Nginx**, which **filtered Nagios server logs and optimized alert delivery to ServiceNow**, improving alert processing time by 35%
- **Distinguished achievement:** Independently designed and deployed comprehensive monitoring and alerting infrastructure using Nagios XI, Perl, and Python. Resulting in a 30% reduction from earlier fragmented monitoring efforts.
- **Skills :** Proficient in VMWare, OpenStack, Docker, Kubernetes, Python, Perl, Bash, Jenkins CI/CD environment, Linux, **Nagios/XI, ServiceNow**, Nessus/Tenable, Nmap, MySQL, **ELK** stack, Lua, and Golang

Senior Technical Architect

Cisco Systems

📅 03/2016 - 09/2017 📍 San Jose, CA

- Developing and maintaining Cisco UCS Platform Maintenance Framework based on Python (QALI) for UCS testing Earlier part of Openstack Mercury Installer team -Installation, and Debugging issues related to Openstack, for Telecom market
- Designed and Implemented library for supporting Vmware NSX in QALI, in Python Worked with **ESC/NFV (Elastic Service Controller)** Solution Test Team, for automation of features/tests, part of SDWAN product suite Accomplishments: Fixed many issues in QALi, implemented new features as well NSX layer
- Initially part of OpenStack **Mercury** Installer team, focusing on **installation and troubleshooting of OpenStack** issues, particularly for telecom market.
Designed and implemented a library to support VMware NSX within QALI, using Python, enhancing its functionality and integration capabilities.
- Engaged in the development and ongoing maintenance e of the Cisco UCS Platform Maintenance Framework, utilizing Python (QALI) primarily for UCS testing.
- Collaborated with ESC/NFV (Elastic Service Controller) Solution Test Team to automate features and tests as part of SDWAN product suite.
Key Achievements: Addressed numerous issues in QALi, contributing to implementation of **new features** and **integration of NSX layer**.
Technical Skills: OpenStack, SDN, Linux (with specific focus on RHEL, CentOS, Ubuntu), Python, Bash, ATS/pyATS, QALi, and Eclipse
- **Skills:** Openstack, SDN, Linux (with specific focus on RHEL, CentOS, Ubuntu), Python, Bash, ATS/pyATS, QALi,

Lead Software Engineer/Architect

Hewlett Packard

📅 07/2012 - 01/2016 📍 Sunnyvale, CA

- Actively participated in Cloud Computing division, focusing on development of HP Helion (based on OpenStack) and CloudSystem.
- Engineered **performance and scale test framework in Python**, specifically designed for scale and stress testing. This framework comprises approximately 7K lines of Python code and is currently in use for product testing.
- Played pivotal role in development of dynamic updates to HP Cloud platform, enhancing its functionality and efficiency.
- Made **significant contributions to creation of patch generation scripts and development of Ansible playbooks**, streamlining system updates and configurations.
- Designed & developed tools for OpenStack orchestration, as well as **performance characterization** for large-scale Openstack cloud environments.
- Set up and debugged Open vSwitch-based network configurations, demonstrating a comprehensive understanding of OpenStack internals, including installation, development, debugging, and areas related to SDN/NFV.
- **Skills:** Proficient in a wide array of technologies, including OpenStack, HP Cloud (OpenStack-based), VMWare/ESX, Sphere, Cloud Platform configuration and operations, Python, Bash, Linux (Ubuntu/RHEL), Eucalyptus/AWS, Ansible, and Chef

EXPERIENCE

CTO/Product Development

Life Sciences Startup

📅 03/2011 - 04/2012 📍 Bengaluru, India

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- Led development of **product roadmap and technology strategy**, steering **implementation efforts** for **life sciences and medical informatics product lines**
- **Established new team**, by **hiring, mentoring software engineers**, building it into cohesive and effective unit.
- Engaged in **evaluating and integrating multiple cutting-edge technologies** into product lines, enhancing their capabilities and market relevance.
- Developed **cloud-based computational biology platform** to serve as backend for product suite being created
- Leveraging cloud technologies for advanced computational needs.
- Pioneered **adoption of software appliances** (such as Bitnami), forerunners to container technologies, to accelerate product development and deployment.
- Also leading the efforts to establish an EHR offering and ICD-9 to ICD-10 migration
- **Skills:** Gained extensive knowledge in various domains including genomics, grid-based computational biology platforms, In-house Solaris Cluster, BioPerl, medical informatics, parallelization and optimization of algorithms, and AWS (utilized for initial genomics/proteomics analysis)

Lead Integration/Automation for N7K based NX-OS

Cisco Systems

📅 07/2007 - 03/2011 📍 San Jose, CA

Enterprise Networking & Data Centers

- Served as the **Automation Team Lead**, overseeing the **Sanity and Integration** efforts for Cisco's NX-OS 7K, a Data Center switching product. The role focused on ensuring product and code stability across various release cycles. Played a key role in the development and implementation of the NX-OS 7K for consolidated data centers.
- Implemented numerous **innovative strategies**, notably a **semi-automated failure analysis system for test failures**. This approach significantly reduced the release test cycle time by approximately 20%.
- Received the **micro-VC award** within the Cisco business unit in recognition of idea of using **AIS (Artificial Immune System)**, based tools for failure predictions.
- **Skills:** Developed expertise in a range of technologies including various **routing protocols** (OSPF, BGP, EIGRP, RIP), L2-L3 layer protocols, TCP/IP stack, and configuration and management of Cisco Switches/Routers. Proficient in Linux, Tcl/Tk, Perl, Cisco IOS/NX-OS, virtualization tools like Virtual Box and VMWare, and automation using Cisco ATS System. Also experienced in using **Ixia** and **Pageant** for **traffic tests**

QE Engineer/Manager - Open Source Software Integration

Palmsource

📅 03/2006 - 06/2007 📍 Sunnyvale, CA

- QE Manager - Open Source Software Integration in **Access Linux Platform (ALP)**, an **embedded Linux version** for Palm Treo mobile phone
- Palmsource embarked on the development of the Access Linux Platform (ALP), as part of their strategy to create an open source/Linux-based PDA line.
- In my role, I spearheaded the Integration and **Quality Engineering (QE) efforts** across Palmsource. This involved managing the integration of over 50 Free and Open Source Software (FOSS) components and libraries from various sources into the product line, ensuring both product and release stability.
- Collaborated with multiple teams located in the United States, Canada, and China to establish and implement appropriate and explicit processes.
- **Skills:** Gained extensive experience in Embedded Linux and Linux Kernel, as well as a variety of open-source components. Proficient in **QEMU** and **JTAG** for development on ARM-based smartphone platforms. Experienced in **Bluetooth stack** development and programming in C, Java, **Python**, **Perl**, and XML stack

Team Lead SSL/VPN Products

Juniper Networks

📅 03/2004 - 05/2006 📍 Sunnyvale, CA

- Managed the **Quality Engineering and Integration** efforts for SSL/VPN product platform, **feature and cluster testing** Handled the entire Quality Engineering life cycle efforts for the SSL/VPN product line
- Worked with a diverse team of engineers from two different organizations, which were getting integrated
- Built Automation framework, using **Python**
- **Skills:** Linux, AAA (Radius, LDAP, Kerberos), RBAC/Policy based security mechanism, Content Filtering and Rewriting, Mercury tools, Linux, TCP/IP stack, HTTP, Python, Perl, C++, XML suites, SOAP

Founder/Co-founder, Trainer

Startups & Businesses

📅 01/2004 - 01/2006 📍 India

- Managed a training institute and conducted corporate training, teaching programming languages for various companies, like Infosys, and Wipro
- Co-founder and chief architect/designer for product startups (for assisting EMS technicians to relay patient data rapidly to the hospitals),
- Startup to provide **EHR/EMR** software, for independent medical practitioners.

EXPERIENCE

Senior Software Engineer

Agami Systems

📅 03/2003 - 10/2004 📍 San Jose, CA

NAS Storage startup

- /Manager, to Agami, Inc
 - San Jose, CA Managed the Quality Engineering and Integration efforts for SSL/VPN product platform, feature and cluster testing
Handled the entire Quality Engineering life cycle efforts for the SSL/VPN product line Worked with a diverse team of engineers from two different organizations, which were getting integrated Did work on building Automation framework, using Python
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QE/Tools Lead

BlueCoat (Cacheflow) Systems

📅 03/2001 - 04/2003 📍 Sunnyvale, CA

Web Caching/VPN startup

- Directed the Quality Engineering efforts, for NetBSD based Embedded OS platform for Web Caching products Development of a comprehensive Conformance test suite to test the TCP stack changes, using Packet Shell (with requirements derived from RFCs), Design and initial implementation of Test Automation Harness, Tools for simulating many connections to Web-Caching platform
 - **Skills:** Linux, Solaris8, TCP/IP, HTTP, SNMP, NetBSD, Perl, C, C++, Tcl/Tk, Expect, HTTP, Packet Shell
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MTS Tech Lead

NetApp

📅 02/1999 - 02/2001 📍 Sunnyvale, CA

Storage

- Contributed to the Networking Development Team at NetApp, focusing on integrating various networking changes into the FreeBSD-based ONTAP OS used in NetApp NAS products.
 - Took the lead in developing comprehensive test suites for a range of networking stack features. These included routing protocols, VLAN, 802.1Q support, network drivers , and multi-protocol (NFS/CIFS) support.
 - Also spearheaded cross-team initiatives to establish a Test Automation Framework.
 - Adapted packet sniffers to effectively handle 802.1Q and VLAN frames, enhancing network monitoring capabilities.
 - Designed and implemented Traffic Generators and Fault Injection Tools , enriching the suite of test tools available for network testing.
 - **Skills:** TCP/IP stack, RIPv2, SNMP, VLAN, NFS, NIS, and 802.3, Perl, C++, Tcl, and Java. ONTAP (NetApp Filer OS), Linux, Solaris, MySQL, QA automation and test harness development
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Engineering/Project Manager

Infogain Corporation

📅 07/1997 - 08/1999 📍 Sunnyvale, CA

Software Consulting

- Managed multiple software projects across various teams, primarily focusing on offshore development
 - This involved close coordination with clients and overseeing projects that included the design and development of Oracle-based multi-tier systems.
 - Played a key role in the migration of databases from Oracle to SQL Server , ensuring seamless transition and functionality.
 - **Skills:** Gained expertise in a range of technologies, including Sun/Solaris, HP-UX10.x operating systems. Proficient in database management systems such as Oracle and SQL Server, C++
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Engineering Manager

Informix Development Center

📅 03/1994 - 08/1997 📍 Singapore

Databases

- Played pivotal role as one of initial **core team of managers** at Informix, leading efforts to establish an India Development Center in Mumbai .
- This initiative marked **one of first major outsourcing endeavors** by U.S. company in Indian market.
- **Directed and managed migration of product development processes**
- Focusing particularly on internationalization (I18N) and localization (L10N) for Asian market
- Provided **technical leadership** to a team responsible for porting Informix server code to multiple architectures
- This involved integration, performance tuning, and bench marking of servers
- Successfully **hired, mentored, and managed growing team of 15+ engineers**
- Formed and led two distinct teams working on platform servers and tools, including those dedicated to **I18N** and **L10N** efforts.
- Oversaw range of technical including build, construction, code porting, automation testing, and performance tuning.
- The center expanded from 40 people with four engineering teams to 100 engineers. Initiated development of cutting-edge features for Informix servers , such as replication capabilities and query optimizations
- **Skills: Informix 5/6/7 ALS** (Asian Language) Servers and tools, operating systems including Sun/Solaris5, AIX, Digital UNIX, HP-UX 9.x/10.x; C. Skilled in scripting languages, Unix-based tools, Informix DBA, I18N & L10N, & project management

SKILLS

Cloud & Infrastructure:

Expert in designing, deploying, and automating cloud-native architectures for mission-critical systems using AWS (EC2, ECS, S3, ECR, Lambda, RDS, AMI), Kubernetes, Terraform, Ansible, and Infrastructure as Code (IaC). Proven success in managing hybrid environments spanning bare metal, VMware, AWS, and OpenStack, optimizing performance, scalability, and security.

Programming Languages

Proficient in Python, Golang, Typescript, C, C++, and Shell scripting, with a focus on system performance optimization, high-availability architectures, and scalable microservices. Extensive experience in APIs, search indexing, AI-driven recommendations, and distributed computing.

DevOps & CI/CD

Advanced skills in orchestrating, automating, and optimizing CI/CD pipelines using Jenkins, GitHub Actions, AWS CDK, CloudFormation, and Ansible. Developed fully automated deployment workflows, reducing release cycle times by 35% while improving system reliability and security through GitOps and DevSecOps practices.

Containers & Orchestration:

Extensive experience with Docker, Kubernetes, Istio, Envoy, and Consul, specializing in containerized microservices, service mesh, and workload orchestration. Improved service reliability by 30% using traffic routing, observability, and auto-scaling strategies.

Networking/Security:

Deep expertise in L2-L7 networking, SDN, and cloud security, including TCP/IP, SSL/VPN, RBAC, PKI, and micro segmentation. Designed secure, compliant, and highly available cloud architectures, ensuring data integrity and resilience.

Observability/Monitoring:

Extensive experience with Docker, Kubernetes, Istio, Envoy, Consul and containerized microservices architecture. Improved service reliability by 30% using service mesh technologies,

Databases:

Deep knowledge of relational and NoSQL databases, including MySQL, PostgreSQL, MongoDB, Redis, Cassandra, and CockroachDB. Experience in database replication, sharding, and indexing for large-scale data workloads.

System Design & Architecture:

Proven expertise in large-scale, distributed system design, covering capacity planning, high availability, performance tuning, and cost-optimized cloud architectures. Strong understanding of search indexing, caching strategies, and AI-driven personalization.,

Virtualization & Computing Environments:

Expert in Linux, Unix, and Windows environments, with experience in HPC clusters, QEMU/KVM, OpenStack, VMware (ESXi, NSX), and Vagrant. Designed custom VM/containerized environments for specialized workloads.

AI/ML & Search Technologies:

Hands-on experience in deep learning, machine learning, and AI-driven search ranking & recommendations using PyTorch, TensorFlow, and predictive analytics models. Developed video analytics ML models and optimized search relevancy tuning, personalization, and recommendation engines.

Computing & High-Performance Systems:

Extensive expertise in Linux (internals, system administration), Unix, and Windows environments, spanning bare metal, virtualized, and cloud-native computing architectures. Specialized in High-Performance Computing (HPC) clusters, with experience in workload scheduling, parallel processing, and GPU acceleration for AI/ML and large-scale computational tasks.

EDUCATION

Master of Science: Mathematics & Computer Science

University of Denver

📅 Date period 📍 Denver, CO

EDUCATION

Electrical Engineering

Bombay University

📅 Date period 📍 Bombay

CERTIFICATION

AWS certified solutions architect & developer (In Progress)

Coursera

Google Cloud Machine Learning, Tensorflow, Build/Deploy ML models w/ Keras

Coursera

Neural Networks, Deep Learning, Improving Deep Neural Networks

Kubernetes certified administrator (In progress)

Coursera

IBM Blockchain Foundation for developers,

Coursera

Leadership

KEY ACHIEVEMENTS

- ★ **Designed multiple CI/CD for AWS FPGA Projects, w/ C12n, optimized AWS infrastructure**
- ★ **Enhanced System Scalability, Performance & Resilience by applying Chaos Engineering (Cisco MSX)**
- ★ **Enterprise-wide Monitoring, Alerting & Ticketing - Inventory tracking, Nagios XI & ELK Stack based integration with ServiceNow**
- ★ **AI-Powered Video Analytics for Anomaly Detection (AIXIA) - Built & trained deep learning models for real-time video analytics.**
- ★ **Predictive Fault Analysis Using AI (Cisco Data Center - Micro-VC Award)**

INDUSTRY EXPERTISE

Computing Infrastructure

Bioinformatics, Health

Retail

STRENGTHS

- + Cloud & DevOps**
Design & optimize scalable, cloud-native architectures using AWS, Terraform, CI/CD Automation
- + Kubernetes & Containers**
Led containerization, multi-cluster Kubernetes deployments, and IaC automation with Terraform, Python, Ansible
- + Programming & System Development**
Proficient in Python, Typescript, developing test/performance/automation frameworks & high-performance distributed systems.
- + Distributed Systems & Security**
Architected secure, resilient distributed systems with expertise in SDN, service mesh, RBAC, and IAM security policies
- + Observability & Monitoring**
Built enterprise-wide & cloud native monitoring solutions using NagiosXI, ELK,, Splunk, Prometheus,Grafana,
- + Performance & Reliability**
Enhanced system robustness through chaos-engineering, failure injection, and proactive scalability & performance testing.
- + AI/ML & Edge Computing**
Developed AI-driven video analytics model
- + Leadership & Strategic Impact**
Built, & Led SDE team; Led cross-functional teams ; Led team for cloud adoption, DevOps best practices, & automation
- + Mentoring, Training & Consulting**
As part of the regular positions & personal business for training fresh engineers for consulting companies
- + Founded/Co-founded Start Ups**
Leverage cutting edge technologies, solving problems & finding opportunities

PUBLICATIONS

Contributed chapter on the Routing in the Internet in " Convergence through All IP Networks

CRC Press, Nov 2012.

on IP networking, published by(<http://www.crcnetbase.com/isbn/9789814364645>)

📅 2012 🔗 URL

Publication Description

An analysis of Vax/VMS security

Presented at 1985 USENIX conference In Denver, CO, USA -

demonstrating one of the earliest Vax/VMS penetration

📅 Date period 🔗 URL

Publication Description

Chapter on the Routing in the Internet in " Convergence through All IP Networks"on IP networking

CRC Press

Dattaram Miruke

📅 11/2012 🔗 <http://www.crcnetbase.com/isbn/9789814364645>

Publication Description

AWARDS



Awarded micro-VC award within the Cisco Data Center business unit, for introducing and building up on the idea of Predictive Fault Analysis tool , based on the Artificial Immune System(AIS).