Devikrishna Radhakrishnan

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AREAS OF EXPERTISE

Cloud Computing | Software Development | Networking | System Integration | Virtualization|
Solution Architecture | Troubleshooting | Automation

TECHNICAL SKILLS

Docker | Podman | Kubernetes | OpenShift | OpenStack | C++ | C | Java | Python | Bash | SQL | TCP/IP | SDN |
AWS | CRIU | Wireshark | Apache JMeter | Postman | Git | Ansible | Linux | Windows | Jenkins | IMS | VoLTE

PROFESSIONAL EXPERIENCE

Nokia, USA **2023 - Present**
Solution Engineer, Cloud Network Services - IP Telephony
Managed integration of Nokia's Charging Collection Function (CCF) product for a leading U.S. telecom client with 200M+ customers. CCF facilitates telecom service billing and interfaces with other services to gather real-time call data (e.g., call duration, data download volume).

- Deployed CCF software in production environments (Nokia's Private Servers) using CloudBand, a cloud orchestration platform for OpenStack VMs.
- Ensured infrastructure reliability via testing for config bugs and evaluating failover mechanisms (e.g., injecting faults to trigger handover from pilot to standby VMs).
- Handled service migrations and integrated new sources/ sinks with CCF to collect real-time data/ store runtime error logs. Also authored 4 Method of Procedure (MOP) documents for these procedures.

Red Hat, USA **2022**
Solutions Architect Intern, Telco Tigers team
Member of the team responsible for providing novel POCs for the Telco Media clients using Red Hat technologies.

- Automated migration of existing VMs (blohttps://rh-telco-tigers.github.io/gpost) from OpenStack to OpenShift Virtualization, which is not currently supported in their Migration Toolkit (MTV).
- Updated OpenShift's guide repository with 3 new VM network configurations in OpenShift Virtualization. Customers used this repository as an intro tutorial.

Oracle, India **2018 - 2021**
Applications Engineer, Oracle Service Cloud (OSvC)
Member of the core server team responsible for managing the database for Oracle Service Cloud (OSvC) - a leading provider of cloud-based customer service software with 430K+ customers.

- Developed secure and optimized APIs for OSvC's database, contributing over 200 commits to the production codebase.
- Revamped Orphan Sweep - an asynchronous mechanism to delete objects in the transactional DB - achieving an **80%** reduction in delete query run-times.
- Developed a microservice to archive infrequently used data in a low-cost storage option, leading to a reduction of customer storage costs by over **50%**.

CERTIFICATIONS

AWS Certified Cloud Practitioner | July 2024
Verification ID - 6139866699bb4aac95806dfb619f96b9

EDUCATION

Master's, Computer Science
CGPA: 3.84/4
University of Illinois at Urbana Champaign (UIUC), USA

Bachelor's, Computer Science
CGPA: 8.46/10
National Institute of Technology Calicut (NITC), India

RESEARCH EXPERIENCE

University of Illinois Urbana-Champaign **2020 - 2023**
Research Intern
Mentor: Dr. Sibin Mohan, SyNeRCyS Lab

- Created a framework using podman containers to enable hardware-independent execution of real-time applications in an Internet of Things (IoT) environment.
- Designed a predictable mechanism to perform live migration of containers between edge computing nodes in an IoT system that reduced migration time by **8%** to **65%** across scenarios.

PROJECTS

Metric Aware Load Balancer for Microservices
Mentor: Dr. Radhika Mittal, ECE Department (UIUC) GitHub

- Designed a novel load balancing scheme for Envoy, which routes requests based on CPU/ memory usage metrics of the services and nodes running in a cluster.
- The load balancing scheme performs around **30%** better than Round-Robin and around **42%** better than Random, 2 existing load balancing schemes supported by Envoy.

Improving Packet Delivery Probability
Mentor: Dr. Vineeth B S, Department of Avionics

- Enhanced packet delivery probability in a Delay Tolerant Network (DTN) across heterogeneous sub-networks.
- Studied the impact of different routing protocols on packet loss under varying traffic loads and network sizes to identify optimal combinations of routing protocols to maximize packet delivery, achieving around **90%** delivery probability.

ADDITIONAL RELEVANT EXPERIENCE

Teaching Assistant (UIUC)
CS173 Discrete Structures (3 semesters)
CS124 Introduction to CS (1 semester)

Teaching Assistant (NITC)
CS3092 Operating Systems Lab (1 semester)

Senior Executive (NITC)
CS & Engr. Association

AWARDS

1st prize | 2019
Cloud Applications Hackathon

Top 100, India | 2015
Invited to Prime Minister's box on Republic Day for outstanding nationwide academic achievement All India

11th RANK | 2014
AISSCE (National Higher Secondary Exam)

COURSEWORK

Cloud Networking	Cloud Computing Applications	Software Engineering
High-speed & Programmable Networks	Advanced Operating Systems	Data Structures & Algorithms