Devikrishna Radhakrishnan

devikrishnar.github.io devikrishnaR96@gmail.com
LinkedIn: devikrishnar96 GitHub: devikrishnar

EDUCATION

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN (UIUC), USA
Master's, Computer Science
2021 - 2023
CGPA: 3.84/4

NATIONAL INSTITUTE OF TECHNOLOGY CALICUT (NITC), INDIA
Bachelor's, Computer Science
2014 - 2018
CGPA: 8.46/10

SKILLS

Programming Languages
C++ • C • Java • Python • Bash

Cloud
Docker • Podman • Kubernetes
OpenShift • OpenStack • AWS

Tools
CRIU • Wireshark
Apache JMeter • Postman • Git

Operating Systems
Linux • Windows

Telecom
IMS • VoLTE

POSITIONS HELD

Teaching Assistant (UIUC)
CS173 Discrete Structures (Spr'22- Spr'23)
CS124 Introduction to CS (Fa'21)

Teaching Assistant (NITC)
CS3092 Operating Systems Lab (Spr'18)

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
Advanced Operating Systems
High-speed & Programmable Networks
Data Structures & Algorithms

INDUSTRY EXPERIENCE

NOKIA | Solution Engineer, Cloud Network Services - IP Telephony
Kansas, USA — July 2023 - Present

- 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). Key tasks undertaken:
  1. Deployed CCF software in production environments (Nokia's Private Servers) using CloudBand, a cloud orchestration platform for OpenStack VMs.
  2. Ensured infrastructure reliability via testing for config bugs and evaluating failover mechanisms (e.g., injecting faults to trigger handover from pilot to standby VMs).
  3. 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 | Solutions Architect Intern, Telco Tigers team
Raleigh, USA — May - August, 2022

- Automated migration of existing VMs (blogpost) 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 use this repository as an intro tutorial.

ORACLE | Applications Engineer, Oracle Service Cloud (OSvC)
Bangalore, India — 2018 - 2021

- 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%**.

RESEARCH EXPERIENCE

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN | Research Intern
Mentor: Dr. Sibin Mohan, SyNeRCyS Lab — 2020 - 2023

- 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 ~**30%** better than Round-Robin and ~**42%** better than Random, two 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 ~**90%** delivery probability.