

Sheshadri K R

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| 📍 Bangalore, India

EDUCATION

IISc, Bangalore

Ph.D, Serverless computing, Function as a Service (FaaS), IoT
Advised by : Dr. J. Lakshmi, CSL, SERC

Aug. 2018 – Present

Bangalore, India

IIIT Hyderabad

M.Tech CSIS

Aug. 2015 – Jun. 2017

Hyderabad, India

Bangalore Institute of Technology

B.E. Computer Science and Engineering

Aug. 2009 – Jun. 2013

Bangalore, India

PUBLICATIONS

Hybrid Serverless Platform for Service Function Chains

S. K. R and J. Lakshmi, 16th IEEE CLOUD 2023

Jul 2023

QoS aware FaaS for Heterogeneous Edge-Cloud continuum

S. K. R and J. Lakshmi, 15th IEEE CLOUD 2022

Jun 2022

QoS aware FaaS platform

S. K. R and J. Lakshmi, (STEERS Workshop) IEEE/ACM 21st International CCGrid, 2021

Jun 2021

Elfstore : A Resilient Data Storage Service for Federated Edge and Fog Resources

S. K. Monga, S. K. Ramachandra and Y. Simmhan, ICWS, 2019

Aug. 2019

Dynamic Scaling of Video Analytics for Wide-area Tracking in Urban Spaces

Aakash Khochare, KR Sheshadri, R Shriram, Yogesh Simmhan, 2019 19th IEEE/ACM CCGrid, 2019

Jul. 2019

EXPERIENCE

Ericsson India Global Services Pvt. Limited

Research Intern

Jun 2023 - Sep 2023

Bangalore, India

- Proposed and implemented architectures for storage services near 5G Telco Edges

Samsung R and D

Senior Software Engineer

Jun 2017 - Aug 2018

Bangalore, India

- Designing, development of api along with test cases for Smartthings Android Application.
- Handling script automation and code-base maintenance for our team.

IIIT Hyderabad

Teaching Assistant - Scripting and computing environments

Aug. 2016 – Nov. 2016

Hyderabad, India

- TA for the course taught by Dr Suryakanth V Gangashetty.
- Designed assignments around developing HTML pages, Python scripting, shell scripting(bash), grep, sed etc.

Robert Bosch Engineering and Business Solutions

Associate Software Engineer

Sep. 2013 – Sep. 2014

Bangalore, India

- Developed an iPhone application called DeltaApp using Objective C, for issuing timely reminders to water plants.
- Developed an Internet web browser using C++ in Qt framework for embedded systems.

PROJECTS

Distributed key-value store -Evaluating erasure coding and replication

- Designed and developed a data-store which supports both replication and Erasure Coding (EC).
- Proposed a Partial Replication, Partial Erasure coding (PRPE) policy to store data for a given storage budget.
- Evaluated the PRPE strategy for the metrics of storage efficiency and retrieval latency for different EC policies.

Implementation of HBase with recovery

- Designed and developed a HBase like system which runs on HDFS, supports the standard *put()* and *get()*.
- Implemented two different variations of recovery through Write Ahead Logs (WALs).
- Used Apache Zookeeper to perform leader election among region servers, it also monitors state of nodes.

HDFS and MapReduce

- Designed and developed HDFS like file system as a part of course project
- The data store supports the standard *put()*, *get()* and *append()* operations.
- Implemented the MapReduce programming paradigm which runs on the HDFS.
- Used Java RMI for interaction between nodes and Google protobuf was used for serializing/deserializing data.

AWARDS

IEEE TCSC SCALE Challenge

May 2019

Issuer : CCGrid

CCGrid, 2019

- Was a part of the team which won SCALE challenge at CCGrid 2019 for the work "Dynamic Scaling of Video Analytics for Wide-area Tracking in Urban Spaces".
- I handled the vehicular simulation using SUMO, where the traffic was overlaid on the IISc Campus.

Best Paper Award

May 2021

Issuer : Serverless To sErve moRe at Scale STEERS 2021

CCGrid, 2021

- Awarded best paper for our work "QoS aware FaaS platform" at the STEERS workshop held in conjunction with CCGrid 2021.

Dean's Award for Academic Excellence

Nov. 2017

Issuer: IIIT Hyderabad

Hyderabad, India

- Received Dean's List Award for academic excellence in the academic year 2016-2017.

Merit prize for featuring in top-10 in the CSE Dept, BIT

Sep. 2011 – Jan. 2012

Issuer : CSE Dept, BIT Bangalore

Bangalore, India

- Received a merit prize for featuring in top-10 of the CSE Dept. in 5th and 6th semester during B.E.

COMMUNITY SERVICE

Chair, Vice-Chair

Jul 2021 - present

IISc ACM student chapter

IISc, Bangalore

- Organized technical, research talks, coding bootcamps for the computing community at IISc.

Event Coordinator

May 2019 - Feb 2020

IISc ACM student chapter

IISc, Bangalore

- I undertook responsibilities to host the distinguished talks smoothly by overseeing all the event logistics.

Event Coordinator

Feb. 2019

IISc Open Day

IISc, Bangalore

- Undertook responsibilities to host students of different schools to view the science exhibition and experiments for IISc Open Day 2019.