

# Devikrishna Radhakrishnan

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in [linkedin](#)  [github](#)

## Research Interests

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**Systems:** Operating Systems, Networks, Databases, Real-time Systems

## Education

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2021 - 23*	<b>M.S.</b> , Computer Science University of Illinois at Urbana-Champaign	
2014 - 18	<b>B.Tech.</b> , Computer Science and Engineering National Institute of Technology, Calicut, India	8.46/10
2014	<b>Grade 12</b> , Higher Secondary Education Kendriya Vidyalaya Pangode, Trivandrum, India	98.4%

## Research Experience

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2020 - Present	<b>University of Illinois at Urbana-Champaign (UIUC)</b> Mentors: <b>Dr. Sibin Mohan</b> , <i>SyNeRCyS Lab</i>	<b>Research Intern</b>
	<ul style="list-style-type: none"><li>◇ Creating a framework using containers to enable hardware-independent execution of real-time applications in an Internet of things (IoT) environment.</li><li>◇ Current focus is on designing a predictable mechanism to perform live migration of containers between edge computing nodes in an IoT system.</li></ul>	
2016	<b>Indian Institute of Space Science and Technology (IIST)</b> Mentors: <b>Dr. Vineeth B S</b> , <i>Systems and Networks Lab</i>	<b>Research Intern</b>
	<ul style="list-style-type: none"><li>◇ Worked on improving the probability of packet delivery between inter-connected heterogeneous sub-networks in a Delay Tolerant Network (DTN).</li><li>◇ The work focused on using different routing protocols in each sub-network and studying its impact on packet loss under a variety of traffic load conditions and network cluster sizes.</li><li>◇ Devised an optimal combination of routing protocols to use which maximize the packet delivery probability in the DTN.</li></ul>	

## Industry Experience

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2018 - 2021	<b>Oracle</b>	<b>Applications Engineer</b>
	<ul style="list-style-type: none"><li>◇ Was part of the core server team handling the database for <i>Oracle Service Cloud (OSvC)</i> - a leading provider of cloud-based customer service software.</li><li>◇ Developed secure and optimized APIs for managing access to <i>OSvC's</i> database and pushed over 100 commits in the last 2 years to its production codebase.</li><li>◇ Refactored, optimized, and added test-driven development for <i>Orphan Sweep</i>, an internal utility used to asynchronously handle dependencies of database operations. The optimizations led to reduction in query run-times by over 15x.</li><li>◇ Created a microservice that allows customers to cache frequently retrieved data and deployed it into production using <b>Docker</b> containers. Service is used by 100+ corporate customers.</li></ul>	

- ◊ Worked on *FOCUS* - a public sector project, undertaken by the **State of Delaware (United States)**, to create a system to maintain and track case records of children, who need health care and/or relocation to foster homes.
- ◊ Worked with the **Delaware Children's Department** ([kids.delaware.gov](https://kids.delaware.gov)) to develop a system for digitization of data using **VisualForce** framework on the Salesforce CRM platform.

## Awards

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**2019 1<sup>st</sup> prize** in Oracle's Cloud Applications Hackathon

**2014** Honoured to be selected (among the **top 100 in India**) to witness the Republic Day Parade from the Prime Minister's box

**2014 11<sup>th</sup> Rank in India** in AISSCE (National Higher Secondary School Exam)

## Selected Projects

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2017 - 18

### Analysis of Bitcoin Transactions

Final Year Project

Dr. Gopakumar G, *Data Mining*

- ◊ Analyzed the pertinence of the 'Preferential Attachment'(a.k.a., the rich get richer) phenomenon in a bitcoin network by studying its structure and wealth distribution.
- ◊ Demonstrated the presence of the phenomenon using degree distribution analysis, correlation tests, and clustering techniques.

2016

### Experimental Operating System

Course Project (CS3092)

Dr. Muralikrishnan K, *Operating Systems*

- ◊ Created an experimental OS (**ExpOS**) that supports Process Management, Memory Management, and System Calls.
- ◊ The OS supports loading and execution of programs that are pre-loaded in the Experimental String Machine (**XSM**).

## Coursework

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|--------------------------------|------------------------|-------------------------|
| ◊ Data Structures & Algorithms | ◊ Compiler Design      | ◊ Computer Networks     |
| ◊ Computational Intelligence   | ◊ Software Engineering | ◊ Computer Organization |
| ◊ Advanced Operating Systems   | ◊ Advanced DBMS        | ◊ Data Mining           |

## Positions of Responsibility

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<b>Teaching Assistant</b>	Introduction to Computer Science, UIUC
<b>Senior Executive</b>	Computer Science and Engineering Association, NIT Calicut
<b>Joint Secretary</b>	Literary and Debating Club, NIT Calicut
<b>Teaching Assistant</b>	Operating Systems Lab, NIT Calicut
<b>Senior Executive</b>	Program Committee, Ragam (one of South Asia's largest cultural fests)
<b>Senior Executive</b>	Marketing Committee, Tathva (over 40k participants)

## Skills

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<b>Languages</b>	C++, C, Java, Python, PHP
<b>Cloud</b>	Docker, Kubernetes
<b>Tools</b>	Git, Postman, Apache Jmeter, ONE Simulator, runC, CRIU
<b>Web</b>	HTML, CSS, JavaScript, MySQL