

# Madhurima Chakraborty

PhD candidate, CSE, UCR

Winston Chung Hall  
Riverside, CA 92507  
3238398184  
mchak009@ucr.edu  
My Webpage  
Github LinkedIn



## Research Interest

I am broadly interested in the applied and fundamental aspects of programming languages, applications of software engineering and intelligent decision making; particularly developing structured program analysis and automated software testing/debugging techniques.

## Technical skills

**Languages:** JavaScript, Python, Java, C/C++, SQL, HTML5/CSS, Cobol

**JavaScript Libraries, Frameworks and Tools:** Node.js, Express.js, Jest, Puppeteer, WALA, Jalangi2

## Experience

### Research

- 9/2019 – **Graduate Student Researcher**, *University of California, Riverside, CA*  
present Design of robust Static Call Graph techniques for modern, framework-based JavaScript applications: Invent techniques to discover more of the crucial functions and call edges in modern web applications.

### Teaching

- Fall 2020: **CS180: Introduction to Software Engineering**, *CS, UC Riverside.*

### Work

- 1/2018 – **Product Specialist**, *Cognizant, WB, India*  
5/2019 Migrated mainframe based applications to Java APIs and the data from DB2 and VSAM to H-Base and Titan DB.  
8/2015 – **Senior Systems Engineer**, *Infosys, Orissa, India*  
12/2017 Worked on development and maintenance of Mainframe applications.

## Publications

M Chakraborty, R Olivares, M Sridharan, and B Hassanshahi. Automatic root cause quantification for missing edges in javascript call graphs. In *36th European Conference on Object-Oriented Programming*, **ECOOP 2022**. (To appear).  
M Chakraborty. A study of call graph effectiveness for framework-based web applications. In *Companion Proceedings of the 2021 ACM SIGPLAN International Conference on Systems, Programming, Languages, and Applications: Software for Humanity*, **SPLASH Companion 2021**, page 13–15. (Winner of ACM Student Research Competition).

## Education

- 2019–present **PhD, Computer Science & Engineering**, *University of California, Riverside, CA, USA.*  
CGPA: 3.86/4 Advisor: Manu Sridharan  
2011–2015 : **Bachelor of Technology, Information Technology**, *RCC IIT, Kolkata, WB, India.*  
CGPA: 8.6/10 Class Rank: 3/103

## Accolades & Honors

### Academic

- 2021 **ACM Student Research Competition : Graduate Category Winner**, *Splash.*  
2020 **WiML ICLR 2020 Travel Grant**, *Women in Machine Learning.*  
2020 **Bug recognized at DeepCode's Bug Bounty program**, *DeepCode.ai.*  
2019 **Dean's Distinguished Fellowship**, *UC Riverside.*  
2018 **Google Nanodegree Scholarship to Front End Web Developer**, *Google India & Udacity.*  
2018 **Shortlisted for International Women's Hackathon**, *Hackerearth.*

### Professional

- 2018 **1 Star Award**, *Cognizant Technology Solutions.*  
For exceptional performance over the quarter

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| 2017 | <b>Insta Award,</b><br>For successful implementation of a critical high visibility project | <i>Infosys Limited.</i>            |
| 2017 | <b>Insta Award,</b><br>For excellent analytical skills                                     | <i>Infosys Limited.</i>            |
| 2016 | <b>High Performer Trainee,</b><br>Awarded to top 10% employees<br>Extracurricular          | <i>Infosys Limited.</i>            |
| 2017 | <b>Division-level Public Speaking Champion,</b>  | <i>Toastmasters International.</i> |
| 2017 | <b>Triple Crown Award,</b>   | <i>Toastmasters International.</i> |

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## Synergistic Activities

**Mentor:** Open Source Day Summer'21.

**Undergraduate Research Mentor:** Renzo Olivares.

**Student Volunteer:** PLDI'20 , SPLASH'20.