

# Rachna Raj

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## EDUCATION

### Concordia University: Student ID 40231734

Montreal, Canada

*PhD (fast-tracked), Software Engineering: CGPA: 4.3/4.3*

*September 2024 - April 2028*

**Thesis Title:** Bridging Open-Source Communities: Developing Ecosystem Analytics to Support OSS Maintainers.

### Concordia University

Montreal, Canada

*Masters of Science, Applied Computer Science: CGPA: 4.1/4.3*

*September 2023 - April 2025*

### North Eastern Regional Institute of Science and Technology

Arunachal Pradesh, India

*Bachelor of Technology, Computer Science and Engineering; CGPA: 8.85/10*

*May 2015 - April 2019*

## PUBLICATIONS

### The Role of ChatGPT in Developer-ChatGPT Conversations

MSR 2024

- **Rachna Raj** and Diego Elias Damasceno Costa.
- The paper explores a collection of Developer's-ChatGPT conversations related to external dependencies while recommending code that uses libraries.

### Reduction and Reproduction of Educational Disadvantage through AI-driven NLP in Multilingual Migrant Societies (BibeKI)

IFGT 2025

- Co-authored with Marion Döll, Magdalena Michalak, Lisa Schor, Kirstin Ulrich, Sabine Guldenschuh, Katrin Engelmayr-Hofmann, Kristina Peuschel, **Rachna Raj**, Tanja Tajmel, and Elena Waggshauser.
- Conference presentation at the International Finnish German Studies Conference 2025, University of Jyväskylä, Finland, June 4–6, 2025.

### Towards Supporting Open Source Library Maintainers with Community-Based Analytics (Under Review)

- **Rachna Raj** and Diego Elias Damasceno Costa.
- The paper discusses strategies to assist open-source library maintainers by leveraging community feedback to improve software quality.

## SCHOLARSHIPS & GRANTS

### ICSE'25 Student Mentoring Workshop Grant:

2025

- Awarded \$500 USD by ACM SIGSOFT for participation in the Student Mentoring Workshop.

### Concordia University Doctoral Fellowship:

2025–2028 (12 terms)

- Awarded \$28,000 CAD, split across twelve terms.

### Concordia International Tuition Award of Excellence:

2025–2027 (8 terms)

- Awarded \$47,463 CAD, distributed across eight terms.

### Concordia Merit Scholarship:

2024 (3 terms)

- Awarded \$5,000 CAD, split across three terms.

## AWARDS AND ACHIEVEMENTS

### Best Student Presentation Award: MSR

April 2024

- Awarded by the MSR 24 committee for presenting the research work on "The Role of Library Versions in Developer-ChatGPT Conversations."

### Hackathon Competition winner at IBM:

April 2023

- Developed an AI-enabled chatbot that can be a one-stop-shop solution for getting details on all employee-related tasks such as resource allocation, HR, Finance, DevOps, product development, and many more.

### Scholarship Winner, Aarya Janani Glory of Indian Civilization Contest:

Oct 2022

- Ranked in top 30 among 30000+ participants across India.

- Infosys Rise Awards:** June 2021
- Unit-level quarterly award for outstanding contributions and performance in exploring new tech stack and its implementations.
- Infosys Insta Awards:** Mar 2021
- Certificate of appreciation for providing valuable contribution in the development of HELIX.
- Women Hackathon: Infosys Ltd** April 2021
- Secured 2nd place in the ChooseToChallenge women hackathon at Infosys Ltd. We developed a web application with an AI-enabled ergonomic assistant to help employees during the work-from-home season.
- Gold Medalist | Highest Scorer of the batch (2k15-2k19)** July 2019
- Recognition By Hon'ble Governor, Arunachal Pradesh** August 2018
- I got recognised for speech and poem performance twice (at Governor's Secretariat).

## RESEARCH & PROFESSIONAL EXPERIENCE

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- Research Assistant(part-time)-EDI Labs** Nov 2024 - April 2025  
*Concordia University* *Montreal, QC*
- Topic: study on the usage of Generative AI tools and their implications for Equity, Diversity and Inclusion in higher education.
  - Conducted literature review on GenAI in higher education with a focus on EDI, managed a literature database, assisted in survey development, contributed to publications, and participated in project meetings.
- Tutorial Instructor** Sept 2024 - Dec 2024  
*Concordia University* *Montreal, QC*
- Subject: End-to-End Designing of AI-Based Software Systems
  - Delivered tutorial lectures on designing AI-Based Software Systems to industry professionals at Ericsson
- Assistant Project Supervisor** May 2024 - Aug 2024  
*Concordia University* *Montreal, QC*
- Subject: Analyzing ChatGPT as a library migration and Troubleshooting Agent
  - Supervised an undergrad intern and NSERC awardee of our research proposal at the **REALISE Lab**
- Teaching Assistant** Jan 2024 - April 2024  
*Concordia University* *Montreal, QC*
- Subject: : Generative AI for Software Engineering
  - Evaluate critiques and summaries on research papers provided as reading assignments to students.
- Software Developer** March 2022 - July 2023  
*IBM India Software Labs* *Bangalore, IN*
- Implemented various use cases on SPM and Child welfare applications using Curam
  - Optimized the project by consolidating OSS jars and resolving security vulnerabilities in the SPM project code base.
- Senior Systems Engineer** Dec 2019 - March 2022  
*Infosys Limited* *Bangalore, India*
- Implemented various features of Provider Life-cycle Module in a healthcare project named Helix.
  - Created POC on GraphQL and tried to analyse the cases on its applicability over RESTFUL APIs.
  - Engineered a scalable and fault-tolerant RESTful API for a client's health-care platform using Spring Boot

## VOLUNTEERING EXPERIENCE

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- National Service Scheme-** July 2015 - July 2019
- Served this organization for four years and helped create awareness about education, women empowerment and sanitation to nearby communities and villages.