Dr. Priyanka Panigrahi

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Education

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
Ph.D.	Indian Institute of Technology Guwahati	8.00 (Course Work)	2017-2024
M.Tech.	VSSUT, Burla, Odisha	9.48	2013-2015
B.Tech.	RIT, BPUT, Odisha	8.28	2008-2012
Senior Secondary	CHSE, Odisha	73%	2008
Secondary	BSE, Odisha	84%	2006

Experience

- **Indian Institute of Technology (ISM) Dhanbad** — *May 2026 - Present*
  Assistant Professor, Dept. of Computer Science and Engineering — Dhanbad, Jharkhand
- **National Institute of Technology Tiruchirappalli** — *Dec 2025 - May 2026*
  Assistant Professor, Dept. of Computer Science and Engineering — Tiruchirappalli, Tamilnadu
- **Kalinga Institute of Industrial Technology Deemed To Be University** — *July 2024 - Dec 2025*
  Assistant Professor, School of Computer Engineering — Bhubaneswar, Odisha
- **Indian Institute of Technology Guwahati** — *July 2023 - Dec 2023*
  JRF GATE, Dept. of Computer Science and Engineering — Guwahati, Assam
- **Odisha University of Technology and Research (Formerly CET)** — *Jul 2016- Jun 2017*
  Lecturer, Dept. of Information Technology — Bhubaneswar, Odisha
- **Veer Surendra Sai University of Technology (Formerly UCE)** — *Aug 2015- May 2016*
  Lecturer, Dept. of Computer Science and Engineering — Burla, Odisha

Research Interest

- Information Security
- Compiler Systems
- Formal Verification
- Program Analysis
- ML for Compiler

Publications

Journals

- **Priyanka Panigrahi**, and Chandan Karfa, "MQIL: Model Checking based Quantification of Information Leakage,"in *IEEE Embedded Systems Letters* (ESL), Mar. 2026, doi: 10.1109/LES.2026.3677498, Q2, IF:2.
- **Priyanka Panigrahi**, and Chandan Karfa, "Translation Validation of Information Leakage of Compiler Optimizations", in *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* (TCAD), vol. 42, no. 11, pp. 3585-3598, Nov. 2023, doi: 10.1109/TCAD.2023.3269954, Q1, IF: 2.9.
- **Priyanka Panigrahi**, Abhik Paul and Chandan Karfa, "Quantifying Information Leakage for Security Verification of Compiler Optimizations," in *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* (TCAD), vol. 41, no. 11, pp. 4385-4396, Nov. 2022, doi: 10.1109/TCAD.2022.3200914, Q1, IF: 2.9.
- **Priyanka Panigrahi**, Vemuri Sahithya, Chandan Karfa, and Prabhat Mishra, "Secure Register Allocation for Trusted Code Generation," in *IEEE Embedded Systems Letters* (ESL), vol. 14, no. 3, pp. 127-130, Sept. 2022, doi: 10.1109/LES.2022.3151096, Q2, IF: 2.

Conferences

- **Priyanka Panigrahi**, Vignesh Ravichandra Rao, Thockchom Birjit Singha, and Chandan Karfa, "SRIL: Securing Registers from Information Leakage at Register Transfer Level", in *37th International Conference on VLSI Design and 23rd International Conference on Embedded Systems* (VLSID), Kolkata, India, 2024, pp. 492-498, doi:10.1109/VLSID60093.2024.00088.
- **Priyanka Panigrahi** and Chandan Karfa, "An Investigation into the Security of Register Allocation with Spilling and Splitting", in *IEEE Computer Society Annual Symposium on VLSI* (ISVLSI), Foz do Iguacu, Brazil, 2023, pp. 1-6, doi: 10.1109/ISVLSI59464.2023.10238662.
- **Priyanka Panigrahi**, Rajesh Kumar Jha, and Chandan Karfa, (2019). "User Guided Register Manipulation in Digital Circuits", in *VLSI Design and Test* (VDAT), 2019, pp. 468–481, Communications in Computer and Information Science, vol 1066. Springer, Singapore, https://doi.org/10.1007/978-981-32-9767-8_39.

Courses Taught

- **Compiler Design (CSPC62)** to 3rd Year undergrad students at NITT, Jan 2026 - Apr 2026 (4 Credits, 71 students)
- **Introduction to Computer Programming (CSIR12)** to 1st Year undergrad students at NITT, Jan 2026 - Apr 2026 (2 Credits, 69 students)
- **Automata Theory and Formal Languages (CS21003)** to 2nd Year undergrad students at KIIT, July 2025 - Ongoing (4 Credits, 3 Sections, 234 students)
- **Database Management System (CS20006)** to 2nd Year undergrad students at KIIT, Dec 2024 - Apr 2025 (3 Credits, 2 Sections, 155 students)
- **Artificial Intelligence (CS30002)** to 3rd Year undergrad students at KIIT, Dec 2024 - Apr 2025 (3 Credits, 74 students)
- **Database Management System Laboratory (CS29006)** to 2nd Year undergrad students at KIIT, Dec 2024 - Apr 2025 (3 Credits, 2 Sections, 155 students)
- **Design and Analysis of Algorithms (CS30001)** to 3rd Year undergrad students at KIIT, July 2024 - Nov. 2024 (3 Credits, 2 Sections, 153 students)
- **Computer Networks (CS30003)** to 3rd Year undergrad students at KIIT, July 2024 - Nov. 2024 (3 Credits, 78 students)
- **Design and Analysis of Algorithms Laboratory (CS39001)** to 3rd Year undergrad students at KIIT, July 2024 - Nov. 2024 (1 Credit, 76 students)
- **Computer Networks Laboratory (CS39003)** to 3rd Year undergrad students at KIIT, July 2024 - Nov. 2024 (1 Credit, 2 Sections, 158 students)

Professional Service

- **Course Co-coordinator**: Automata Theory and Formal Languages, July - Dec 2025
- **Member**: School-Level Mentoring/Counselling Cell, July - Dec 2025
- **Mentor**: 82 B.Tech Students in their academic and career guidance at KIIT University, Nov 2024 - Dec 2025
- **Mentor**: 4 B.Tech and 2 M.Tech final year students in their academic course project at IIT Guwahati, June 2020 - Sep. 2023
- **Resource Person**: TEQIP-III sponsored short-term course on C-based VLSI Design: Synthesis, Optimization, and Verification at IIT Guwahati, 2019
- **Reviewer**: VLSID 2025, VLSID 2026

Teaching Assistantship

- **NPTEL Course on C Based VLSI Design**: July-Oct 2021, July-Oct 2022, July-Oct 2023
- **Department of CSE, IIT Guwahati**: Jul 2017 – May 2022
  - CS577: C-based VLSI Design - Spring 2019, Spring 2020, Spring 2021, Spring 2022
  - CS221: Digital Design - Fall 2020, Fall 2021
  - CS593: Data Structures and Databases Lab - Fall 2019
  - CS513: Programming Lab - Fall 2019
  - CS210: Data Structure Lab - Fall 2018
  - CS110: Introduction to Computing Lab - Spring 2018
  - CS322M: Digital Logic and Computer Architecture - Fall 2017
- **Department of CSE, VSSUT, Burla**: Aug 2013 - May 2015

Achievements

- Fellowship for attending VLSID 2024
- Ph.D. Thesis accepted in the Ph.D. Forum of VLSID 2024
- **Winner of Qualcomm Innovation Fellowship (QIF), India, 2022**
- Ph.D. Thesis accepted in the Ph.D. Forum of IEEE WINTECHCON 2022
- Finalist of Qualcomm Innovation Fellowship (QIF), India, 2021
- Travel grant for attending VDAT, 2019
- GATE Fellowship for Ph.D. by MHRD, Govt. of India, 2017-2022
- GATE Fellowship for M.Tech. by MHRD, Govt. of India, 2013-2015
- Qualified in GATE 2011 and 2012
- Branch topper in 2nd, 3rd, and 4th semesters of B.Tech.