

SUBHRENDU CHATTOPADHYAY

A Contact Information

- **Present Address:**
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B Research Objective

At present I am an Assistant Professor in the Department of Computer Science and Engineering, Thapar Institute of Engineering and Technology (TIET).

My research interests are in computer systems (e.g. Computer Networks, Operating Systems, Distributed Systems). During my PhD my primary research focus was in Software Defined Networking (SDN), Network Function Virtualization (NFV), Fog Computing, Next Generation Networks, and Performance Modeling of Network and Communication Systems. My contributions were to enhance the scalability of SDN in large-scale IoT environments, where I successfully developed and implemented orchestration frameworks that automate deployment and provide robust fault and partition tolerance. I am passionate about creating self-managing, future-proof network architectures.

At IDRBT, I was instrumental in the 5G Use-Case Lab for BFSI, contributing to the identification and development of critical India-specific 5G applications for the financial sector. I also played a key role in the establishment of the Network Innovation Lab (NIL), a dedicated facility for advancing network design, development, and management to foster evolutionary network architectures and test financial applications. In both capacities, I engaged in in-depth research at the intersection of network, operating systems and distributed systems.

In my current assignment I am continuing to work on those fields by extending my works in the area of *Intent Based Networking (IBN)*. I am also collaborating with my peers to explore further the security concerns around IBN.

C Academic Qualification

- **PhD:** Doctor of Philosophy in Computer Science and Engineering from Indian Institute of Technology, Guwahati (July,2014 - April,2021)
- **Post Graduation:** Master of Technology in Computer Science and Engineering with **CGPA: 8.81/10** from Indian Institute of Technology, Guwahati (June,2012 - July,2014)
- **Graduation:** Bachelor of Technology in Computer Science and Engineering with **CGPA: 8.04/10** from B.P Poddar Institute of Management and Technology, WestBengal University of Technology (July,2006 - June,2010)
- **Higher Secondary (10+2):** with **77.5%** from Beldanga C.R.G.S High School, under West Bengal Council of Higher Secondary Examination (May,2006)
- **Secondary (10):** Madhyamik with **81.5%** from Sargachhi Ramakrishna Mission High School, under West Bengal Board of Secondary Education (April,2003)

D Professional Experience

- **Assistant Professor:** Thapar Institute of Engineering and Technology (TIET), Patiala(January,2025 - Till Date)

- **Assistant Professor:** Institute for Development and Research in Banking Technology (IDRBT), Hyderabad(April,2022 - December,2024)
- **Assistant Professor:** Department of CSE in SRM-University, AP(June 2021 - April 2022)
- **Temporary Project Staff:** Department of Computer Science and Engineering in Indian Institute of Technology, Kharagpur (October,2020 - March,2021)
Project Name: Development of Algorithms and Tools for Log Analytics and Vulnerability Assessment
Principal Investigator: Dr. Sandip Chakraborty
- **Automation Test Engineer:** Programmer Analyst Trainee in Cognizant Technology Solution India Pvt. Ltd. (July,2010 - July,2011)

E Thesis

Subhrendu Chattopadhyay,*SDN for Large Scale IoT Networks*, PhD thesis, Supervised by Prof. Sukumar Nandi, Indian Institute of Technology Guwahati, <http://gyan.iitg.ernet.in/handle/123456789/1854>, 2021.

F Awards

1. **Fellowship:** Recipient of TCS Research scholarship (Cycle 10) and Fellowship from MHRD
2. **Travel Grants:**
 - (a) Received conference travel grant from IEEE COMSNETS and LRN foundation.
 - (b) Recipient of travel grant from Microsoft India, Research and Development
3. **Best paper awards:**
 - (a) IEEE INFOCOM 2019 [6] (in a session)
 - (b) IEEE COMSNETS 2016 [1]
 - (c) IEEE ANTS 2013 [3]

G Subjects Taught

1. **Continuous Development and DevOps (PG: Th+Lab)** in TIET
2. **Design and Analysis of Algorithm (UG: Th)** in TIET
3. **Objected Oriented Programming with C++ (UG: Th+Lab)** in TIET
4. **Microprocessor Based System Design (UG: Th+Lab)** in TIET
5. **Advanced Operating Systems (PG: Th+Lab)** in IDRBT, UoH Campus
6. **Internet Technology (PGDBT: Th+Lab)** in IDRBT
7. **Computer Networking (UG: Th+Lab)** in SRM-University, AP
8. **Objected Oriented Programming with C++ (UG: Th+Lab)** in SRM-University, AP
9. **Operating Systems (UG: Th+Lab)** in SRM-University, AP

H Projects

1. **5G Usecase Lab for BFSI:** Funded by DoT and DFS (GoI), PI: Prof. V.N. Sastry, Co-PI: Subhrendu Chattopadhyay, Abhishek Thakur, INR. 1.05 Cr.
2. **Consultancy on Comprehensive IT Infrastructure Review:** A Public sector Bank, Co-PI: Subhrendu Chattopadhyay, Radha V, N.P. Dhavale, Dipanjan Roy, INR. 28,500,00
3. **Consultancy on SIEM Solutions:** A Private sector Bank, Co-PI: Subhrendu Chattopadhyay, Dipanjan Roy, INR. 3,00,000

I Voluntary Services

1. Conference Reviewer: IEEE ANTS (2014 - 2024), IEEE ICC 2017, IEEE NCC 2017, IEEE ISED 2017, IEEE COMSNETS (2018-2024), COMSYS 2023
2. Journal Reviewer: Springer Journal of Network and Systems Management
3. Member of Technical Program Committee: IEEE COMSNETS (2020-2024), CSI 2022, NCC 2021, 2022, ICDCN 2023

J Collaborations

I had the opportunity to collaborate with the following distinguished researchers.

1. Prof. Somanath Tripathy, Professor, IIT Patna [On-going]
2. Prof. Theophilus A. Benson, Professor, CMU
3. Dr. Sandip Chakraborty, Associate Professor, IIT Kharagpur [On-going]
4. Prof. Soumya K Ghosh, Professor, IIT Kharagpur
5. Prof. Sushanta Karmakar, Professor, IIT Guwahati
6. Dr. Samar Shailendra, Adjunct Faculty, IIIT Bangalore
7. Dr. Abhinandan S. Prasad, Assistant Professor, IIT Ropar
8. Dr. Niladri Sett, Assistant Professor, SRM University AP
9. Dr. Soumyajit Chatterjee, Research Scientist, Nokia Bell Labs Cambridge
10. Dr. Shubhabrata Nath, Assistant Professor, IIIT Guwahati

K Reference Persons

1. Prof. Sukumar Nandi, Senior Professor
Department of CSE, IIT Guwahati, Assam, India-781039, sukumar@iitg.ac.in, (+91 361 258 2357)
2. Dr. Sandip Chakraborty, Associate Professor
Department of CSE, IIT Kharagpur, West Bengal, India-721302, sandipc@cse.iitkgp.ac.in, (+91 322 228 2898)
3. Prof. V. N. Sastry, Professor
IDRBT, Masab Tank, Hyderabad, Telengana, India-500057, vnsastry@idrbt.ac.in, (+91 40 2329 4304)
4. Prof. Soumya Kanti Ghosh, Professor
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