

Subhadeep Sahoo

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Education

- 🎓 **Ph.D.**, Computer Science Davis, CA, USA
2021 – Present
University of California, Davis
GPA: 3.96/4
Advisors: [Professor Biswanath Mukherjee](#) and [Professor Massimo Tornatore](#)
- 🎓 **M.Eng. by research**, Communication and Information Systems Chongqing, China
2017 – 2020
Chongqing University of Posts and Telecommunications
GPA: 3.96/4
Advisor: [Professor Ning-Hai Bao](#)
- 🎓 **B.Tech.**, Electronics and Communication Engineering Kolkata, India
2011 – 2015
Maulana Abul Kalam Azad University of Technology
(Formerly known as West Bengal University of Technology)
GPA: 9.12/10

Work Experience

- Nokia Bell Labs**, Research Intern Murray Hill, NJ, USA
Summer, 2025
- **Project responsibilities:** Towards next-generation network and cloud service provision: third-party brokerage through blockchain marketplace.
 - **Technical skill sets:** Dynamic service durations, privacy through smart contracts, Deterministic performance, SLA metric generation, monitoring, violation alerts, and full contract lifecycle tracking.
- Nokia Bell Labs**, Research Intern Murray Hill, NJ, USA
Summer, 2023
- **Project responsibilities:** Software-defined guaranteed-latency networking with Qdisc and shaper.
 - **Technical skill sets:** Linux based module designing and analyzing performance on testbed.
- Nokia Bell Labs**, Research Intern Paris, France
Spring, 2020
- **Project responsibilities:** Edge datacenter latency minimization over dynamic deterministic optical network.
 - **Technical skill sets:** Python based simulation designing and analyzing performance on testbed.
- Tata Consultancy Services Ltd.**, System Engineer Kolkata, India
2015 - 2017
- **Project responsibilities:** Network configuration review and security analysis.
 - **Technical skill sets:** Network penetration testing, OWASP, Iperf, Vulnerability assessment.

Selected Professional Services

- 📄 Member of the technical program committee for IEEE ANTS, 2023 and 2024. Virtual, 2023 - 2024
- 📄 Reviewer for IEEE TNSM, IEEE Access, IEEE IoT journal, IEEE ICC, IEEE DRCN, IEEE ANTS, 6GNet, and NoF conference. Virtual, 2020 - Present

Teaching

- TA for ECS 154A [Computer Architecture](#) taught by Prof. Daryl Posnett at UC Davis. Spring, 2022
- TA for ECS 152A [Computer Networks](#) taught by Prof. Dipak Ghosal at UC Davis. Spring, 2021
- TA for Communication Networking Theory taught by Prof. Ning-Hai Bao at CQUPT. Fall, 2018

Research Projects

US-Japan JUNO3: Cloud-Carrier Cooperation for Efficient and Ultra-Reliable Programmable Backbone Networks

- Developed novel cooperation strategies among DC service provider and optical-network carriers during disaster recovery to improve service restoration with reduced cost and time.
- **Tools Used:** Python, Bash, Cplex

Natural Science Foundation, China: Survivable Virtual Network Embedding Scheme in Elastic Optical Networks

- Developed novel strategies to maximize acceptance of virtual network (VN) requests, utilization of spectrum on Elastic Optical Networks, and guarantee the survivability.
- **Tools Used:** Python, C++, Bash

Selected Publications

1. **S. Sahoo**, S. Xu, S. Ferdousi, Y. Hirota, M. Tornatore, Y. Awaji, and B. Mukherjee, “**Post-Disaster Cloud-Service Restoration through Datacenter-Carrier Cooperation**”. [IEEE/OSA JOCN](#), 2025
2. S. Xu, **S. Sahoo**, S. Ferdousi, M. Shiraiwa, Y. Hirota, M. Tornatore, Y. Awaji, and B. Mukherjee, “**Multi-Entity Cooperation Platform Facilitating Network-Cloud Recovery**”. [IEEE/OSA JOCN](#), 2025
3. I. M. Castrignano, **S. Sahoo**, S. Xu, S. Ferdousi, Y. Hirota, M. Tornatore, Y. Awaji, and B. Mukherjee, “**A Centralized Cooperation Model among Datacenter Providers and Carriers for Disaster Recovery**”. **(Best paper award)* [IEEE ANTS](#), 2025
4. **S. Sahoo**, S. Xu, S. Ferdousi, Y. Hirota, M. Tornatore, Y. Awaji, and B. Mukherjee, “**Service Restoration in Multi-Entity Network-Cloud Ecosystems: How to Cooperate?**”. [IEEE Commag](#), 2024
5. **S. Sahoo**, S. Ferdousi, S. Xu, Y. Hirota, M. Tornatore, Y. Awaji, and B. Mukherjee, “**DC-Carrier Cooperation for Rapid Restoration against PNE-Node Failure in Optical Networks**”. [IEEE/OSA OFC](#), 2024
6. S. Xu, **S. Sahoo**, S. Ferdousi, N. Yoshikane, M. Shiraiwa, Y. Hirota, M. Tornatore, T. Tsuritani, Y. Awaji, and B. Mukherjee, “**Scheme of carrier cooperation with coordinated scheduling for faster and lower-cost failure/disaster recovery**”. [IEEE/OSA JOCN](#), 2024
7. S. Xu, **S. Sahoo**, S. Ferdousi, M. Shiraiwa, Y. Hirota, M. Tornatore, Y. Awaji, and B. Mukherjee, “**A Novel Strategy of Carrier Cooperation with Coordinated Scheduling for Swift Failure/Disaster Recovery**”. **(Best paper award)* [IEEE ONDM](#), 2023
8. **S. Sahoo**, S. Xu, S. Ferdousi, Y. Hirota, M. Tornatore, Y. Awaji, and B. Mukherjee, “**Strategic Cooperation among Datacenter Providers and Optical-Network Carriers for Disaster Recovery**”. [IEEE Globecom](#), 2022
9. **S. Sahoo**, S. Xu, S. Ferdousi, Y. Hirota, M. Tornatore, Y. Awaji, and B. Mukherjee, “**Datacenter-Carrier Cooperation over Optical Networks during Disaster Recovery**”. [IEEE/OSA OFC](#), 2022
10. **S. Sahoo**, S. Bigo, and N. Benzaoui, “**Introducing Best-in-Class Service Level Agreement for Time-Sensitive Edge Computing**”. [IEEE/OSA ECOC](#), 2021
11. N. Benzaoui, **S. Sahoo**, and S. Bigo, “**Deterministic latency networks: the enabler of edge data center synchronous operation**”. [IEEE/OSA JOCN](#), 2021
12. **S. Sahoo**, S. Bigo, and N. Benzaoui, “**Deterministic Dynamic Network-Based Just-** [IEEE/OSA ECOC](#), 2020

in-Time Delivery for Distributed Edge Computing”.

13. N. H. Bao, **S. Sahoo**, M. Kuang, and Z. Z. Zhang, “**Adaptive Path Splitting Based Survivable Virtual Network Embedding in Elastic Optical Networks**”. Elsevier OFT [↗](#), 2020
14. N. H. Bao, **S. Sahoo**, M. Kuang, and Z. Z. Zhang, “**Synchronous Evacuation Strategy for Double Virtual Machines Under Disaster Risk Zone**”. IEEE TSP [↗](#), 2020
15. N. H. Bao, M. Kuang, **S. Sahoo**, G. P. Li, and Z. Z. Zhang, “**Early Warning Time based Virtual Network Evacuation Against Disaster Threats**”. IEEE IoT Journal [↗](#), 2019

Patent

 An Anchor Node-Based Virtual Network Survivability Mapping in Elastic Optical Networks, ZL201910079410.2. [Link](#) [↗](#), 2021

Selected Honors and Awards

 Best Paper Award, IEEE ONDM.	2023
 Summer Research Fellowship Award, CS department, UC Davis.	2022
 Graduate Studies- Fall Travel Awards for IEEE Globecom, UC Davis.	2022
 Graduate Student Research Fellowship, UC Davis.	2020 - Present
 Outstanding International Student Award, International College of CQUPT, China.	2020
 Ericsson Innovation Award in North-East Asia Region.	2019
 Best Article Award on “Building a community with shared future,” CQUPT.	2019
 Chinese Government Scholarship.	2017 - 2020
 Student of the Year for outstanding achievement in undergraduate study.	2015
 Newspaper coverage for the project- communication system for mute people.	2014
 Secured 2 nd position in national embedded systems design competition at IIT, KGP.	2013

Technical Skills

-  **Programming Languages:** Python, Numpy, Pandas, C/C++, Embeded C, SQL, and Matlab.
-  **Systems and Tools:** Linux, Arduino, Nessus, Kali Linux, Iperf, and Metasploit.
-  **Writing:** Latex, Word, and various visualization tools.
-  **Languages:** English, Hindi, and Bengali.

References

Available upon request.