



## Soumadip Biswas

---

SUMMARY	6+ years of academic research experience and 10+ years of cumulative programming experience in industry and academia. Eager interest in developing as well as learning new methods for solving problems and improving existing solutions. Demonstrated capability of identifying and solving problems through research and analysis. Looking for opportunities that require exploration of new network technologies such as 5G, NFV, SDN, and in computer systems such as distributed systems, operating system, etc.		
RESEARCH INTERESTS	Advances in Computer and Cellular Networking, Graph Theory and Algorithms, Distributed Systems and Algorithms, and Operating Systems.		
CONTACT INFORMATION	Website: <a href="https://soumadip.github.io">soumadip.github.io</a> . Email1: <a href="mailto:soumadip.b@iitkgp.ac.in">soumadip.b@iitkgp.ac.in</a> Email2: <a href="mailto:soumadip.cse@gmail.com">soumadip.cse@gmail.com</a>	LinkedIn: <a href="https://in.linkedin.com/in/soumadipbiswas">in/soumadipbiswas</a> Mobile1: +91 7501552243 Mobile2: +91 9434365243	
EDUCATION	<b>Indian Institute of Technology Kharagpur</b> , Kharagpur, India.  <b>Ph.D.</b> , Dept. of Computer Science & Engineering <span style="float: right;">2014—22.</span> <ul style="list-style-type: none"><li>• Advisors: Dr. Arobinda Gupta and Dr. Sandip Chakraborty</li></ul> <b>M.Tech.</b> , School of Information Technology <span style="float: right;">2010—12</span> <ul style="list-style-type: none"><li>• Advisor: Dr. Soumya K. Ghosh</li></ul> <b>West Bengal University of Technology</b> , Kolkata, India.  <b>B.Tech.</b> , Computer Science & Engineering <span style="float: right;">2006—10</span>		
TEACHING EXPERIENCE	<b>Associate Professor</b> , Institute of Engineering and Management. <span style="float: right;">2022—present</span> <b>Courses taught:</b> Data Structures and Algorithms (Theory and Lab), Formal Languages and Automata Theory, Design and Analysis of Algorithms, Distributed Systems. <b>Guest Faculty</b> , Indian Association for the Cultivation of Science. <span style="float: right;">Autumn 2022</span> <b>Course taught:</b> Introduction to Computing with Python.		
INDUSTRY EXPERIENCE	<b>Software Engineer</b> , Citrix R & D India Pvt. Ltd. <span style="float: right;">2012—2014</span> <i>I worked as a developer for an application virtualization tool called XenApp using C#, C++. I was responsible for fixing problems faced in deployed products by providing feature enhancements and bug fixes.</i> <i>During this time, I have gained experience in i) remote and local debugging, ii) distributed systems problems, iii) responsible coding, and iv) communications. Also, on some occasions, I had helped in achieving a multi-party consensus.</i> <i>I received a promotion from Software Engineer 1 to Software Engineer 2 within 1 year of joining.</i>		
ACADEMIC EXPERIENCE	<b>Research Scholar</b> , Indian Institute of Technology Kharagpur. <span style="float: right;">2014—22</span> <b>Algorithms for Handover Management in Dense LTE Networks under Vehicular Mobility:</b> Reduction in the number of handovers is desirable for providing good quality of service. However in a densely deployed LTE network, for high-speed		

users, achieving this has its own set of problems. In this regard, we have provided some solutions published in reputed journals and conferences.

During this time, I have gained experience in i) identifying and modeling problems, ii) designing experiments through technical analysis and iii) open-source simulation tools.

**Teaching Assistant:** Algorithms, Distributed Systems, Parallel and Distributed Systems, Programming and Data Structures, Advanced Graph Theory, Performance Modeling of Computer Networks, Computational Complexity, Geospatial Information System, Internet and Web Technology.

**Projects Mentored:** Distributed Chat, Distributed logging, Collaborative Download, Cluster Middleware, Publish-Subscribe System, P2P System, Vector Clock, Distributed Clock Synchronization.

**Masters Thesis,** Indian Institute of Technology Kharagpur. 2011—12

**Geospatial Services in Cloud Infrastructure:** In this work, using only open-source tools, we successfully deployed a first-generation IaaS cloud. We further demonstrated that data-intensive geospatial services (e.g. WFS, WMS, WPS) can be safely deployed in a cloud environment by utilizing SaaS while respecting the privacy of multiple participating parties.

**Bachelor Project,** West Bengal University of Technology. 2009—10

**Web-Enabled Cluster Computing with Customized Load Balancing:** In this work, we provided a proof of concept that large computation can be remotely performed over commodity hardware and low-bandwidth connection by utilizing the Beowulf cluster and MPI.

## ACHIEVEMENTS

- Ph.D Scholarship awarded by MHRD, Govt. of India for 2014—19.
- M.Tech Scholarship awarded by MHRD, Govt. of India for 2010—12.
- All India Rank 330 (99.69<sup>th</sup> %ile) in GATE 2010.

## SKILLS

Technical:

- Programming: Python, C, C++, Shell scripting, SQL.
- Framework: Network Simulator (NS3), LENA, SUMO.
- Database: MySQL.
- OS: Linux, Windows.

Communication:

- English (C2), Bengali (C2, Native).
- Hindi (C1).

## PUBLICATIONS (CONFERENCE)

1. **S. Biswas, S. Chakraborty, and A. Gupta, "Reducing Spurious Handovers in Dense LTE Networks based on Signal Strength Look-ahead,"** IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob) 2018, Limassol, Cyprus, 2018.
2. **S. Biswas, A. Gupta, and S. Chakraborty, "A Framework for eNB Load Balancing in Dense LTE Networks,"** IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC) 2019, Istanbul, Turkey, 2019.

## PUBLICATIONS (JOURNAL)

1. **S. Biswas, A. Gupta, and S. Chakraborty, "Load-balanced User Associations in Dense LTE Networks,"** Computer Networks, Vol. 189, 2021.

## PUBLICATIONS (OTHER)

1. **S. Biswas, S. Chakraborty, and A. Gupta, "Poster Abstract: Balanced User Association in Dense LTE Networks,"** IEEE International Conference on Computer Communications (INFOCOM) 2019, Paris, France, 2018.

## REFERENCES

Arobinda Gupta, Professor

Dept. of Computer Science & Engineering  
Indian Institute of Technology Kharagpur

E-mail: [agupta@cse.iitkgp.ac.in](mailto:agupta@cse.iitkgp.ac.in)

Phone: +91 - 3222 - 283476

Sandip Chakraborty, Associate Professor

Dept. of Computer Science & Engineering  
Indian Institute of Technology Kharagpur

E-mail: [sandipc@cse.iitkgp.ac.in](mailto:sandipc@cse.iitkgp.ac.in)

Phone: +91 - 3222 - 282898

Soumya K. Ghosh, Professor

Dept. of Computer Science & Engineering  
Indian Institute of Technology Kharagpur

E-mail: [skg@iitkgp.ac.in](mailto:skg@iitkgp.ac.in)

Phone: +91 - 3222 - 282332