

## Soumadip Biswas, *Ph.D.*



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—23.</span> <ul style="list-style-type: none"><li>• Thesis Title: <i>Algorithms for Handover Management in Dense LTE Networks under Vehicular Mobility</i></li><li>• Advisors: Dr. Arobinda Gupta and Dr. Sandip Chakraborty</li><li>• Submitted in <i>April 2022</i> and defended on <i>24 Jan 2023</i></li></ul> <b>M.Tech.</b> , School of Information Technology <span style="float:right">2010—12</span> <ul style="list-style-type: none"><li>• Thesis Title: <i>Geospatial Services in Cloud Infrastructure</i></li><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> , <i>Institute of Engineering and Management</i> . . <span style="float:right">May 2022—present</span> <b>Courses taught:</b> <i>Data Structures and Algorithms (Theory and Lab), Formal Languages and Automata Theory, Design and Analysis of Algorithms (Theory and Lab), Distributed Systems (Elective).</i> <b>Guest Faculty</b> , <i>Indian Association for the Cultivation of Science</i> . . <span style="float:right">Autumn 2022, Autumn 2023</span> <b>Course taught:</b> <i>Introduction to Computing.</i>		
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> , <i>Indian Institute of Technology Kharagpur</i> . <span style="float:right">2014—22</span> <b><i>Algorithms for Handover Management in Dense LTE Networks under Vehicular Mobility:</i></b> <i>Reduction in the number of handovers is desirable for providing good quality of service. However in a densely deployed LTE network, for high-speed</i>		

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

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