

## 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 researching in computer systems e.g. networking, distributed systems, operating system, etc.

### CONTACT INFORMATION

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### EDUCATION

**Indian Institute of Technology Kharagpur**, Kharagpur, India.

**Ph.D.** (Thesis Submitted), Dept. of Computer Science & Engineering 2014—22.

- Advisors: Dr. Arobinda Gupta and Dr. Sandip Chakraborty

**M.Tech.**, School of Information Technology 2010—12

- Advisor: Dr. Soumya K. Ghosh

**West Bengal University of Technology**, Kolkata, India.

**B.Tech.**, Computer Science & Engineering 2006—10

### INDUSTRY EXPERIENCE

**Software Engineer**, Citrix R & D India Pvt. Ltd. 2012—2014

*I had 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.*

*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 had received a promotion from Software Engineer 1 to Software Engineer 2 within 1 year of joining.*

### ACADEMIC EXPERIENCE

**Research Scholar**, Indian Institute of Technology Kharagpur. 2014—present

**Handover and Load Balancing in Dense LTE Network for Users in Vehicles:**

*Reduction in the number of handover 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 journal and conferences.*

*During this time, I have gained experienced on i) identifying and modeling of problems, ii) designing experiments through technical analysis and iii) open-source 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.

**RESEARCH INTERESTS** Cellular Networks, Computer Networks, Software Defined Networking, Algorithms, Applied Machine Learning.

**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), French (A1).

**ACTIVITIES & INTERESTS**

**Association with Social Organization**

- Gopali Youth Welfare Society (NGO)
  - Coordinator 2015—16
  - Board Member 2016—17

**Interests**

- Photography.
- Swimming, Table-tennis, Bike trips.
- Drawing, Solving Puzzles.

**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

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Indian Institute of Technology Kharagpur

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