



Dr. Imon Mukherjee

**CONTACT
INFORMATION**

Dept. of Computer Science & Engineering,
Indian Institute of Information Technology
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West Bengal 741235, India

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OBJECTIVE

To work in an academic/administrative position (i.e., faculty, postdoctoral, or research scientist, etc.) that allows for advanced research in information security (i.e., modeling, analysis, design, and verification) and helps the society in various aspects.

PRESENT STATUS

Assistant Professor
Dept. of Computer Science & Engineering
Indian Institute of Information Technology, Kalyani

www.iitkalyani.edu.in

**RESEARCH
INTERESTS**

Information Security in Secret Data Transmission: Steganography, Sterilization, Steganalysis, Visual Cryptography.

**ACADEMIC AND
INDUSTRIAL
APPOINTMENTS**

Assistant Professor
Dept. of Computer Science & Engineering,
Indian Institute of Information Technology
c/o JIS College of Engineering,
Block A, Phase III, Dist. Nadia, Kalyani,
West Bengal 741235, India

January 2012 - Present

Assistant Professor
Dept. of Computer Science & Engineering,
St. Thomas' College of Engineering & Technology
4, Diamond Harbour Road
Kolkata-700023, India

January 2012 - June, 2016

Assistant Professor (Sr. Scale)
Dept. of Computer Science & Engineering,
Institute of Technology & Marine Engineering, India.
(Presently known as The Neotia University)
NITMAS Campus
Jhinga, Diamond Harbour Road,
P.O. Amira, South 24 Parganas
West Bengal 743368

August 2006 - December 2011

- Examination Supervisor** *Even Semester, 2011*
West Bengal University of Technology, Kolkata, India
(Presently known as Maulana Abul Kalam Azad University of Technology, West Bengal)
- University Station Supervisor** *Odd Semester, 2010*
West Bengal University of Technology, Kolkata, India
(Presently known as Maulana Abul Kalam Azad University of Technology, West Bengal)
- Visiting Lecturer (Computer Science),
Paper Setter and Examiner** *August 2008 - December 2010*
MERI, Jadavpur University, Kolkata, India.
- Visiting Lecturer (Computer Science)** *August 2008 - December 2011*
Indian Maritime University, Kolkata, India.
P - 19, Taratalla Road,
Kolkata - 700 088
- Tutor** *January 2006 - June 2006*
Dept. of Computer Science & Engineering.
St. Thomas' College of Engineering & Technology
4, Diamond Harbour Road
Kolkata-700023, India
- Software Engineer** *June 2005 - December 2005*
Hi-Q Solutions, Kolkata, India. 49/68 P.G.M.S Road,
Kolkata - 700 033, India

EDUCATION

- Doctor of Philosophy (Ph.D.) in Engineering**
Date of Thesis Submission *5-th August 2014*
Awarded on *10-th July 2015*
- *Thesis Title: Design and Analysis of Steganographic Algorithms*
 - *Dept.: Computer Science & Engineering*
 - *University: Jadavpur University*
 - *Supervisor:*
Dr. Goutam Paul,
Assistant Professor,
Cryptology and Security Research Unit,
R. C. Bose Centre for Cryptology and Security,
Indian Statistical Institute,
Kolkata - 700 108, India.
WWW: <http://www.isical.ac.in/~goutam.paul/>
- Master of Technology (M.Tech.),** *August 2009*
- *Dept.: Computer Science & Engineering*
 - *University: Jadavpur University*
 - *Division/Class: First*
 - *Thesis Title: Java based Simulator for Wireless Networking*

- *Supervisors:*

Dr. Nandini Mukherjee, Professor
and
Dr. Sarbani Roy, Assistant Professor,
Dept. of Computer Science & Engineering,
Jadavpur University, Kolkata - 700 032.
Mobile: +91-99030-39536
Fax: +91-033-2413-1766
E-mail: nmukherjee@cse.jdvu.ac.in
sarbani.roy@gmail.com
WWW: <http://www.jaduniv.edu.in/>

Bachelor of Technology (B.Tech.),

August 2005

- *Dept:* Dept. of Computer Science & Engineering,
- *University:* West Bengal University of Technology,
- *Division/Class:* First

Higher Secondary (Std. XI-XII),

July 2000

- *Stream:* Science,
- *From:* New Alipore Multipurpose School, Kolkata, India.
- *Division/Class:* First

Secondary Examination (Std. IX-X),

July 1998

- *Stream:* General,
- *From:* Behala Aryya Vidyamandir, Kolkata, India.
- *Division/Class:* First

NATIONAL LEVEL EXAMINATION Graduate Aptitude Test in Engineering (GATE) in Computer Science & Engineering/Information Technology

LIST OF PUBLICATIONS

Refereed International Journals

- [1] Paul, G., Davidson, I., **Mukherjee, I.**, and Ravi, S, S., "Keyless Dynamic Optimal Steganography using *Energetic* Pixels", Multimedia Tools and Applications, pp. 1-27, 2016, Springer-US, DOI: 10.1007/s11042-016-3319-0 [SCI(E) indexed]
- [2] **Mukherjee, I.**, and Paul, G., Altrin, J., "Defeating Steganography with Multibit Sterilization using Pixel Eccentricity", IPSI BgD Transactions on Advance Research IPSI BgD Transactions on Advance Research (IPSI BgD Internet Research Society), vol. 11, no. 1, pp. 25-34, 2015, DOI: 10.1109/GLOCOM.2010.5684216
- [3] **Mukherjee, I.**, and Paul, G., "Multi-bit Steganography in Spatial Domain using *Fibonacci* Base of Pixel Intensities", ACM Transactions on Privacy and Security (Communicated), 2015 [SCI indexed]
- [4] **Mukherjee, I.**, Ghosh, U., and Maity, S., "UCW Based Highly Secured Multibit Steganography in Spatial Domain", The Journal of Cryptology (Communicated), 2015 [SCI indexed]
- [5] Chakraborti, S., Banerjee, A., Mukherjee, S., **Mukherjee, I.**, "Bit Separation and Utilisation to Improve Exploiting Modification Direction", Multimedia Tools and Applications [SCI(E) indexed], 2016 (under Preparation)

Chapters

- [6] **Mukherjee, I.**, Dutta, B., Banerjee, R., Das., S., “DWT Difference Modulation Based Novel Steganographic Algorithm”, Jajodia, S., Mazumdar, C. (Eds.): Lecture Notes, Chapter 36, pp. 1-10, vol. 9478, Springer, (2015), ISBN: 978-3-319-26960-3.
- [7] **Mukherjee, I.**, Podder, A., “DCT Based Robust Multi-bit Steganographic Algorithm”, Advanced Computing, Networking and Informatics- Volume 2, Kundu, M.K., Mohapatra, D.P., Konar, A., Chakraborty, A. (Eds.): Chapter 41, pp. 375-382, Springer, (2014), ISBN: 978-3-319-07349-1.
- [8] **Mukherjee, I.**, and Paul, G., “Efficient Multi-bit Image Steganography in Spatial Domain”, Bagchi, A., and Ray, I. (Eds.): Lecture Notes, Chapter 21, pp. 270-284, vol. 8303, Springer, (2013), ISBN: 978-3-642-45203-1.
- [9] Paul, G., Davidson, I., **Mukherjee, I.**, and Ravi, S, S., “Keyless Steganography in Spatial Domain using Energetic Pixels”, Venkatakrishnan, V., and Goswami, D. (Eds.): Lecture Notes, Chapter 10, pp. 134-148, vol. 7671, Springer, (2012), ISBN: 978-3-642-35129-7.

Refereed International Conferences

- [10] Dutta, S., Das, X., Ganguly, R., **Mukherjee, I.**, “A Novel Approach to E-Voting using Multi-Bit Steganography”, To appear in Proceedings of International Conference on Intelligent Computing and Communication - 2016 (ICIC2- 2016), Springer, February 18-19, 2016, Kalyani, India.
- [11] Halder, P., **Mukherjee, I.**, “A Novel Double Layered Image Steganography in Spatial Domain using Triangular Number System”, In Proceedings of 2015 IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN), pp. 411-416, November 20-22, 2015, Kolkata, India.
- [12] **Mukherjee, I.**, Ganguly, R., “Privacy Preserving of Two Sixteen-Segmented Image using Visual Cryptography”, In Proceedings of 2015 IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN), pp. 417-422, November 20-22, 2015, Kolkata, India.
- [13] Ghosh, U., Maity, S., and Mukherjee, I. “Statistical Attack Resistant Multi-Bit Steganography Using Mobile Keypad Character Encoding”, In Proceedings of International Conference on Telecommunication Technology & Management (ICTTM-2015), pp. 19, April 11-12, 2015, IIT-Delhi, India.
- [14] Dutta, S., Das, X., Ganguly, R., **Mukherjee, I.**, and Bhattacharjee, S., “A Novel Distant E-Voting Mechanism Using Dual Layer Security”, In Proceedings of International Conference on Telecommunication Technology & Management (ICTTM-2015), pp. 20, April 11-12, 2015, IIT-Delhi, India.
- [15] Paul, G., **Mukherjee, I.**, “Image Sterilization to Prevent LSB-based Steganographic Transmission”, CoRR abs/1012.5573 (2010). Later appeared in Proceedings of the 11-th International Conference on Security and Management (SAM), July 16-19, 2012, Las Vegas, U.S.A., pp. 448-454 under the title “Sterilization of Stego-images through Histogram Normalization”.
- [16] Mukherjee, N., **Mukherjee, I.**, Bhattacharyya, D., and Kim, T., “Context Based Speech Analysis of Bengali Language as a Part of TTS Conversion”, In Proceedings of the 13th International Conference on Signal Processing and Image Processing and Pattern Recognition (SIP-2011), December 14 - 16, 2011, Dallas, USA, pp. 204-214, vol. 0260, Lecture Notes in Communications in Computer and Information Science, Springer, 2011. doi:10.1007/978-3-642-27183-0_22

- [17] **Mukherjee, I.**, and Paul, G., “Double Bit Sterilization of Stego-images”, In Proceedings of the 10th International Conference on Security and Management (SAM), July 18-21, 2011, Las Vegas, U.S.A., pp. 743-746.
- [18] Das, S., Sharma S., Bakshi, S., and **Mukherjee, I.**, “A Framework for Spatial Domain Modulation Based Steganography”, International Conference on Advanced Computing and Intelligent Engineering (ICACIE2016), Odisha, India, Springer, 2016 (Communicated).
- [19] Ghosh, U., Burman, D., Maity, S., and **Mukherjee, I.**, “Adaptive Multi-bit Image Steganography using Pixel-Pair Differential Approach”, International Conference on Advanced Computing and Intelligent Engineering (ICACIE2016), Odisha, India, Springer, 2016 (Communicated).
- [20] Ganguly, R., **Mukherjee, I.**, “Multiple Video Clips Preservation using Folded Back Audio-Visual Cryptography Scheme”, International Conference on Information Systems Security (ICISS 2016), MNIT Jaipur, India, LNCS, Springer, 2016 (Communicated).
Exploiting Modification Direction

FUNDED PROJECTS

- [1] Principal Investigator of the on going project, entitled “Implementation of Security in e-Governance through Steganography”, funded by Department of Science & Technology (DST), Govt. of West Bengal, India (2013-2016).

RESEARCH SUPERVISION

1. Ph.D.:

- (a) **Pratik Kumar Halder**, M.Tech. (WBUT)
Advising since June, 2015 (not yet registered)
- (b) **Prodipta Bhowmik**, M.Tech. (JU)
Advising since April, 2016 (not yet registered)

2. M.Tech.:

- (a) **Anjan Kumar Payra**
Supervised M.Tech. Thesis on “Steganology for The Computer Forensics Examiners” by Anjan Kumar Payra, Dept. of Computer Science & Engineering, Kalyani Government Engineering College, Nadia, West Bengal, India, 2011.

PROFESSIONAL ACTIVITY

Organizing Committee Member

- Program Committee Member, 7-th International Conference on Computational Intelligence and Communication Networks, Sept. 12-14, 2015, Jabalpur, India.
- Program Committee Member, International Conference on Advanced Computing, Networking and Informatics, June 24-26, 2014, Kolkata, India.

Referee Service

- *International Journal on Neural Computing and Applications*, Springer, ISSN: 0941-0643.
- *16th International Conference on Cryptology in India (INDOCRYPT 2015)*, December 6-9, 2015, IISC-Bangalore, India.
- *International Conference on Computational Intelligence and Communication Networks, 2015*.
- *2015 IEEE 2nd International Conference on Recent Trends in Information Systems (ReTIS-2015)*, July 9-11, 2015, Kolkata, India.
- *15th International Conference on Cryptology in India (INDOCRYPT 2014)*, December 14-17, 2014, New Delhi, India.

- *2nd International Conference on Advanced Computing, Networking and Informatics (ICACNI 2014), June 24-26, 2014, Kolkata, India.*
- *12th International Conference on Applied Cryptography and Network Security (ACNS 2014), June 10-13, Lausanne, Switzerland.*

PROFESSIONAL
MEMBERSHIPS

- Institute for Electrical and Electronics Engineers (IEEE) [Inst.], 2015
- Computer Society of India, 2002-2005

CAREER
DEVELOPMENT
PROGRAMS

Refresher Course/Summer School (Two or Three Weeks Program)

- [1] UGC sponsored Refresher Course on “Security in Wired & Wireless Networks” organized by Jadavpur University during 4th -23rd July, 2011 (Qualified the exam. with highest grade ‘A’).
- [2] MHRD/AICTE sponsored Summer School Training Program on “Design Issues for Information Systems-Software Engineering” organized by National Institute of Technical Teacher’s Training & Research (NITTTR) during 14th -26th July, 2008.

STP/QIP (One Week Program)

- [3] AICTE sponsored QIP on “Workshop on Medical Imaging” organized by IIT-KGP during January 2-8, 2011.
- [4] Seminar on “Intelligent Systems & Robotics” organized By St. Thomas’ College of Engineering & Technology during 26-29 March, 2010.
- [5] AICTE sponsored QIP on “Image and Video Processing” organized by IIT-KGP during 23rd Nov-6th Dec, 2009.
- [6] MHRD sponsored STP on “Programming in JAVA” organized by National Institute of Technical Teacher’s Training & Research (NITTTR) during 25th-29th May, 2009.
- [7] MHRD sponsored STP on “IP Networking” organized by National Institute of Technical Teacher’s Training & Research (NITTTR) during 22nd -26th June, 2009.
- [8] MHRD sponsored STP on “Database Management System” organized by National Institute of Technical Teacher’s Training & Research (NITTTR) during 14th -26th July, 2008.
- [9] Webel/SUN Microsystems sponsored workshop on “Training of Trainers” organized by Webel, 12th - 16th February (40 hours), 2007.

Workshops/Seminars/Others (Less than One Week Program)

- [10] Faculty Development Program on “Quality Engineering & Assurance Orientation” organized by Cognizant Technology Solutions on 28th June, 2013.
- [11] Seminar on “Computing & Informatics” organized by St. Thomas’ College of Engineering & Technology during 11-14th June, 2013.
- [12] IEEE Seminar on “Computational Intelligence in Information Systems, Imaging and Security” organized by St. Thomas’ College of Engineering & Technology during 03-04th August, 2012.

- [13] Awareness program on “Software Freedom with Google Summer of Code” organized by Jadavpur University, 22nd May, 2012.
- [14] JU-ISI Workshop on “Many Facets of Cryptology” jointly organized by Indian Statistical Institute and Jadavpur University during October, 14-15, 2011.
- [15] Workshop on “Quality Enhancement of Engineering Education through NPTEL” organized by IIT-KGP during 18th - 19th January, 2011.
- [16] Seminar on “Machine Intelligence and Applications” organized By St. Thomas’ College of Engineering & Technology on May 18, 2008.
- [17] IBM sponsored QIP on “Faculty Development Workshop on XML & DB2” organized by IBM Academic Initiative during 26th-28th July, 2007.
- [18] State level Seminar on “Machine Intelligence and Applications” organized by RCC Institute of Information Technology at Rang Durbar Hall, Swabhami on 9th March, 2007.
- [19] Teachers Training Course on “Development of Entrepreneurial Sprit” organized by Jadavpur University during 12-13 January, 2007.
- [20] Symposium on “Recent Trends in Bio-informatics and Data Mining” organized by Department of Computer Science and Engineering, Jadavpur University, 2nd April, 2004.

SUBJECT/LANGUAGES
TAUGHT

- Basic Computation & Principles of Computer Programming (using C)
- Database Management Systems
- Data Structure & Algorithms
- Formal Languages and Automata Theory
- Object Oriented Programming
- Operational Research & Optimization Techniques
- Programming Languages
- Software Engineering

OTHER COMPUTER SKILLS

- Editing and Productivity Software
 - \TeX (\LaTeX , \BibTeX , \PSTricks)
 - Office (Microsoft Office, OpenOffice.org, etc.)
- Computer Programming tools for R&D work and Numerical Analysis
 - \MATLAB
 - Mathematica

AWARDS
/SCHOLARSHIPS

- Scholarship from St. Thomas’ College of Engineering & Technology, Kolkata, 2002-05.
- Award under National Scholarship Scheme, Ministry of Human Resource Development (MHRD), Govt. of India, 1998-99 for securing rank in the merit list of Madhyamik Examination (Std. X), 1998.
- Awards from AISTA, 1992-93, 1993-94, 1997-98.
- Awards from CPSM, 1992-1998.

REFERENCES
AVAILABLE TO
CONTACT

Available on request

Dated, Kolkata,
22-th July, 2016

Imon Mukherjee

(Signature)