UNIVERSITY OF NORTH BENGAL
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Raja Rammohunpur, Dist- Darjeeling, West Bengal, Pin-734013, India.

ENLIGHTENMENT TO PERFECTION

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Department of Computer Science and Application

Print

Dr. Sharad Sinha

M.C.A., Ph.D.

Assistant Professor

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Subject specialization: Cryptography, NLP

Areas of Research Interest: Cryptography, Steganography, NLP

No. of Ph.D. students: **(a) Supervised:** Nil   **(b) Ongoing:** 02 .

No. of M.Phil. students: (a) Supervised: NA   **(b) Ongoing:** NA .

No. of Publications: 13

Projects Completed:

1. *Co-Investigator*, NLP Project "Development of Major North-Eastern Languages – Nepali" in consortium mode under the leadership of C-DAC, Pune and funded by DeitY, Ministry of Information Technology, Govt. of India (2008-2011).
2. *Co-Principal Investigator*, NLP Project "Indian Languages Corpora Initiative, Phase II – Nepali" in consortium mode under the leadership of Jawaharlal Nehru University, New Delhi and funded by DeitY, Ministry of Information Technology, Govt. of India (2013-2016).

Professional Experiences and Activities:

- 18 years of teaching (PG)
- *Member*, *Editorial Board*, "Glossary of Technical Terminology in Nepali" published by West Bengal Board of Secondary Education.

Administrative Experiences:

- Member of the Departmental Committee.
- Former Member of the University Library Committee.
- Former Student Member of the NBU Executive Council.
- Former Student Member of the NBU Court Council.
- University Nominee to the Governing Body, Mirik College.

Selective List of Publications:

1. Mandal, J. K., Sinha, S., and Mal, S., "A Microprocessor Based Encoder using Cascaded Orientation of Bits (COB)", proceedings of the National Seminar RIT – 2003, CMRI, Dhanbad, February, 2003.
2. Mal, S., Mandal, J. K., Chatterjee, S., and Sinha, S., "A Microprocessor Based Encoder Through Transposition of Bits", proceedings of the International Symposium on "Information Technology : Emerging Trends", IIIT, Allahbad, September, 2003.
3. Sinha, S., Mandal, J. K., and Mal, S., "Microprocessor Based Encoder Through Selective Positional Orientation of Bits (SPOB)", proceedings of the International Conference on "Recent Trends and New Directions of Research in Cybernetics & Systems Theory", IASST, Guwahati, January, 2004.
4. Sinha, S., Mandal, J. K., and Chakraborty, R., "A Microprocessor-based Block Cipher through Overlapped Modulo Arithmetic Technique (OMAT)", proceedings of the 12th International Conference on Advanced Computing & Communication – ADCOM 2004, Ahmedabad, December, 2004.
5. Sinha, S., Mandal, J. K., and Chakraborty, R., "A Microprocessor-Based Bit-Level Cryptosystem through Arithmetic Manipulation of Blocks (AMB)", Journal of the Institute of Engineering, Vol. 4, No. 1, Tribhuvan University, Nepal, December, 2004, pp. 1-7.
6. Sinha, S., Mandal, J. K., and Saha, S., "A Microprocessor-based Block Cipher through Bit-pair Operation and Separation (BOS)", proceeding of the International Conference on Information and Communication Technology – ICT Conference 2006, BICC, Kathmandu, Nepal, March – 2006.
7. Sinha, S., Mandal, J. K., "A Microprocessor-based Block Cipher through Decimal Equivalent Positional Substitutions (DEPS)", Proceedings of the National Conference on Recent Trends in Intelligent Computing – RTIC06, Dept. of Computer Science and Engineering, Kalyani Govt. Engineering College, 17-19 November, 2006, pp. 197-204.
8. Bhowmik Dipanjan, Datta Avijit, and Sinha Sharad, "A Bit-level Block Cipher Diffusion Analysis Test – BLDAT", proceedings of the 3rd International Conference on Frontiers in Intelligent Computing Theory & Application (FICTA), Bhuwaneswar, 14-15 November, 2014, AISC 327 Vol. 1, Springer, pp. 667-674.
9. Bhowmik Dipanjan, Datta Avijit, and Sinha Sharad, " Measuring Diffusion Characteristics of Block Ciphers: The Bit Relationship Test", proceeding of the National Conference on Computational Technologies-2015, Dept. of Computer Sc. & Application, University of North Bengal, 20 February, 2015,

International Journal of Computer Science and Engineering (IJCSE), Vol-3, Special Issue-1, pp. 76-80.

10. Bhowmik Dipanjan, Datta Avijit, and Sinha Sharad, " A Novel Scheme for Analyzing Confusion Characteristics of Block Ciphers", proceedings of the 1st International Conference on Intelligent Computing and Communication (ICIC2), Dept. of Computer Sc. & Engg., Univesity of Kalyani, 18-19 February, 2016.

11. Bhowmik Dipanjan, Datta Avijit, and Sinha Sharad, "An Approach towards Analyzing Strict Key Avalanche Criterion of Block Ciphers", International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE), Vol. 4, Issue 6, June 2016, pp. 11640-11644.

12. Datta Avijit, Bhowmik Dipanjan, and Sinha Sharad, "A Novel Technique for Analysing Confusion in S-Boxes", International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE), Vol. 4, Issue 6, June 2016, pp. 11608-11615.

13. *Authored* one essay titled "कम्प्युटरको उद्भव (Computerko Udbhav)" included in Nepali Path Sankalan, Vol. II for Higher Secondary Syllabus of West Bengal Council of Higher Secondary Council.