Akshay Bhasin

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Objective

To obtain a summer internship position as a technology consultant for 2018.

Education

Rensselaer Polytechnic Institute, Troy, New York (Aug' 17 – Dec' 18)
Master of Science in Information Technology

Birla Institute of Technology, Mesra, Ranchi. India (Aug' 13 – May' 17)
Bachelors of Engineering in Computer Science Engineering (GPA 7.84/10.0)
Division: First Class With Distinction (GPA above 7.50)

Experience

Teaching Assistant, Department of Information Technology, Rensselaer Polytechnic Institute (Aug' 17 – May' 18)

- Assist in teaching of courses Database Systems and Software Development at RPI.
- Responsible for grading the assignments, quizzes, and individual projects of over 30 students.

Research Intern, Scientific Analysis Group, Defence Research & Development Organisation (DRDO) (Dec' 16 – June' 17)

- Examined the differential cryptanalysis of PRESENT cipher and analysed the transposition property of S boxes.
- Surveyed lightweight stream ciphers like GRAIN, TRIVIUM, MICKEY and FRUIT, and performed a comparative analysis on them.

Research Intern, Deen Dayal Upadhyaya, Delhi University (May' 16 – July' 16)

- Utilised machine learning techniques like Regression, ANN, and ELM for financial forecasting and implemented the OSELM using the sigmoid function.

Research Intern, Indian Institute of Technology, Delhi (May' 15 – July' 15)

- Analysed local search heuristics for the k-median with outlier variation of facility location problem.

Publications

Akshay Bhasin, Girish Mishra, *Recent Advances in Lightweight Stream Ciphers*, CSI Transactions on ICT, DOI: 10.1007/s40012-016-0112-1, ISSN: 2277-9078, 2016

Archana Thakran, Ram Pal Singh, **Akshay Bhasin**, *Analysis & Prediction of Nonstationary Time Series using OSELM*, Indian Journal of Science & Technology (IJST), 2016 (Under Production)

Projects

Design & Analysis of Lightweight Cryptographic Algorithm for Internet of Things (July' 16 – May' 17)

- Utilised lightweight cipher design primitives like SPN, Feistal Network, LFSR and NFSR to design a S box with differential distribution of 4/16.

Linear & Differential cryptanalysis of a simple SPN network (July' 16 – Aug' 16)

- Implemented linear & differential cryptanalysis attack on a primitive SPN network by Howard M. Heys

PRESENT Cipher (Nov' 15 – Dec' 15)

- Implemented the 64 bit version of PRESENT cipher to understand SPN design application in lightweight cryptography.

Pong Online Game (Apr' 14)

- Developed an online multiplayer game Pong in Python as a part of Interactive Learning in Python Course.

Coursework

Distributed Systems and Algorithms, Cryptography and Network Security 1, Computer Networks, Data Science, Software Engineering, Design and Analysis of Algorithms, Object Oriented Programming using Java, Artificial Intelligence, Soft Computing

Skills

Programming / Scripting Languages - C, C++, Java, HTML5, CSS3, Matlab, Python (Basic)
Operating System - Windows, UNIX(Basic)
Editors and Tools - Microsoft Word, LaTeX, Microsoft Powerpoint