

DECLARATION BY THE CANDIDATE

I, **Alok Kumar Singh Kushwaha** certify that the work embodied in this thesis is my own bona fide work and carried out by me under the supervision of **Prof. Rajeev Srivastava** from **November-2012 to December-2015**, at the **Department of Computer Science and Engineering**, Indian Institute of Technology (BHU), Varanasi. The matter embodied in this thesis has not been submitted for the award of any other degree/diploma. I declare that I have faithfully acknowledged and given credits to the research workers wherever their works have been cited in my work in this thesis. I further declare that I have not willfully lifted up any other's work, paragraphs, text, data, results, *etc.*, reported in journals, books, magazines, reports dissertations, theses, *etc.*, or available at websites and included them in this thesis and cited as my own work.

Date:

Place: Varanasi

Signature of the Student

(Alok Kumar Singh Kushwaha)

CERTIFICATE BY THE SUPERVISOR

It is certified that the above statement made by the student is correct to the best of my/our knowledge.

Signature of Supervisor

(Prof. Rajeev Srivastava)

Department of Computer Science and Engineering

Indian Institute of Technology (BHU), Varanasi

Signature of Head of Department

(Prof. K.K. Shukla)