

**NEW ACCELERATED FIRST-ORDER MACHINE LEARNING
ALGORITHMS USING CONVEX OPTIMIZATION**



The thesis submitted in partial fulfilment

for the Award of Degree

DOCTOR OF PHILOSOPHY

by

MRIDULA VERMA

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

INDIAN INSTITUTE OF TECHNOLOGY

(BANARAS HINDU UNIVERSITY)

VARANASI -221005

Roll No: 13071002

January 2018