

**Information Science  
and  
Applied Mathematics**

Vol.26, 2018

A Bulletin of the Institute of Information Science  
Senshu University

**Editor-in-Chief**

Yoshihiro Usami, School of Business Administration

**Associate Editor**

Minoru Tanaka, School of Network and Information

Printed by Sasaki Printing & Publishing Co. Ltd.

Rokuchonomi Nishimachi 8-45, Wakabayashi-ku

Sendai 984-0011, Japan