**TIGP SNHCC 2019 Spring Syllabus**

**Data Mining in Social Networks (DM)**

<table>
<thead>
<tr>
<th>Place:</th>
<th>Room 108, Old Building, IIS, AS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time:</td>
<td>9:00-12:00 Thurs</td>
</tr>
<tr>
<td>Chair:</td>
<td>Dr. M. K. Shan</td>
</tr>
</tbody>
</table>

**Outline:** In this course, the following topics will be presented and discussed: social media analysis, blogs and friendship network analysis, email and messaging analytics, influence spreading and viral marketing, social reputation and trust, user profiling and recommendation systems, social media searches, expertise and authority discovery, community identification, link prediction, collaborative data analysis, and data mining with social factors.

**Textbook:** Social Network Data Analytics, Charu C. Aggarwal (Ed.), Springer 2011

**Reference:** Data Mining: Concepts and Techniques, J. Han, M. Kamber, and J. Pei, 3rd edition, Morgan Kaufmann, 2011.

Introduction to Data Mining, P.N. Tan, M. Steinbach, and V. Kumar, Addison Wesley, 2006.

**TA:** TBA

**Office hours:** by appointment

**Grades:** Midterm exam 30%. Final exam 30%. Project 40%.

For the most updated syllabus, please visit [http://tigpsnhcc.iis.sinica.edu.tw/course.html#s1](http://tigpsnhcc.iis.sinica.edu.tw/course.html#s1)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics/Brief Description</th>
<th>Lecturers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2019/03/07</td>
<td>Introduction to Social Network Mining</td>
<td>Man-Kwan Shan</td>
</tr>
<tr>
<td>2</td>
<td>2019/03/14</td>
<td>Review of Data Mining Techniques: Frequent Pattern Mining, Clustering</td>
<td>Man-Kwan Shan</td>
</tr>
<tr>
<td>3</td>
<td>2019/03/21</td>
<td>Review of Data Mining Techniques: Classification, Dimensionality Reduction</td>
<td>Man-Kwan Shan</td>
</tr>
<tr>
<td>4</td>
<td>2019/03/28</td>
<td>Network Measures and Social Network Properties</td>
<td>Mi-Yen Yeh</td>
</tr>
<tr>
<td>5</td>
<td>2019/04/04</td>
<td>Spring Break_No Class</td>
<td>Mi-Yen Yeh</td>
</tr>
<tr>
<td>6</td>
<td>2019/04/11</td>
<td>Network Models and Community Detection</td>
<td>Mi-Yen Yeh</td>
</tr>
<tr>
<td>7</td>
<td>2019/04/18</td>
<td>Graph Embeddings</td>
<td>Mi-Yen Yeh</td>
</tr>
<tr>
<td>8</td>
<td>2019/04/25</td>
<td>Social Recommendation</td>
<td>Mi-Yen Yeh</td>
</tr>
<tr>
<td>9</td>
<td>2019/05/02</td>
<td>Python Tools for Social Network Mining</td>
<td>Man-Kwan Shan</td>
</tr>
<tr>
<td>10</td>
<td>2019/05/09</td>
<td>Privacy in Social Networks: A Survey</td>
<td>De-Nian Yang</td>
</tr>
<tr>
<td>11</td>
<td>2019/05/16</td>
<td>Text Mining in Social Networks</td>
<td>De-Nian Yang</td>
</tr>
<tr>
<td>12</td>
<td>2019/05/23</td>
<td>Exam</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>2019/05/30</td>
<td>A Survey of Link Prediction</td>
<td>De-Nian Yang</td>
</tr>
<tr>
<td>14</td>
<td>2019/06/06</td>
<td>Project Proposal</td>
<td>Yi-Shin Chen</td>
</tr>
<tr>
<td>15</td>
<td>2019/06/13</td>
<td>A Survey of Models and Algorithms for Social Influence Analysis</td>
<td>Yi-Shin Chen</td>
</tr>
<tr>
<td>16</td>
<td>2019/06/20</td>
<td>Social Emotion Analysis</td>
<td>Yi-Shin Chen</td>
</tr>
<tr>
<td>17</td>
<td>2019/06/27</td>
<td>Project Presentation</td>
<td>DM Faculty</td>
</tr>
</tbody>
</table>