Macao Polytechnic Institute

School of Applied Sciences

Master of Science in Big Data and Internet of Things

Module Outline

Learning Module	Digital Media and Social Networking		Class Code	COMP6104
Pre-requisite(s)	Nil			
Medium of Instruction	English		Credit	3
Lecture Hours	45 hrs	Lab/Practice Hourse ---	Total Hours	45 hrs

Description

The rapid spread of Online Social Networks (OSNs) and digital media has led to changes in the way users interact on the Internet, and most personal communication is now conducted through such tools. The adoption of services like Facebook, YouTube and Instagram also affect the traffic patterns on the Internet. Lately, there has been a great deal of research into the measurement and analysis of Internet user connectivity, traffic patterns and data sharing for OSNs. This module deals with the implications for the society from personal data collections. The main topics include analysis of personal data collections with data mining, current social media landscape and business models based on personal data.

Learning Outcomes

After completing the learning module, students will be able to:

1. Demonstrate how user-generated content in social media can be collected and analysed with data mining; (SM1fl, EA1fl)
2. Measure the impact of social media campaign in terms of marketing objective; (EA3fl, ET3fl)
3. Illustrate the current global social media landscape and demonstrate the global platform overview; (SM1fl, EA1fl)
4. Identify the ethical issues and problems that arise when processing personal data with data mining. (ET1fl, ET2fl, ET5fl)

Content

1. Digital Media and Social Network (12 hours)

   1.1. Introduction to Media and Social Network

   1.2. Global Social Media Landscape

   1.3. Basic Theory Concepts: Graph and Matrix

   1.4. Models of Social Network Generation

2. Social Media Data Analytics (15 hours)

   2.1. Introduction to Data Analytics

   2.2. Sources of Social Network Data

   2.3. Collecting and Extracting Social Media Data

   2.4. Data Analysis, Visualization, and Exploration

   2.5. Case Studies: Twitter and YouTube

3. Impact of Social Media Campaign (9 hours)

   3.1. Marketing Before Social Media

   3.2. Impacts in Terms of Marketing Strategy

   3.3. Business Promotion with Social Media

   3.4. Other Positive and Negative Impacts

   3.5. Case Studies

4. Ethical Issues and Problems (9 hours)

   4.1. Networks as a Research Paradigm

   4.2. Ethical Issues: Confidentiality and Privacy

   4.3. Ethical Issues: Anonymity and Informed Consent

   4.4. Ethical Concerns and Recommendations

   4.5. Other Problems with Personal Data

   4.6. Case Studies

Teaching Method

Lectures, tutorials, and group discussion.

Attendance

Attendance requirements are governed by the "Academic Regulations Governing Master's Degree Programmes of Macao Polytechnic Institute". Students who do not meet the attendance requirements for the module will not be permitted to sit the final examination and shall be awarded an 'F' grade.

Assessment

This learning module is graded on a 100 point scale, with 100 being the highest possible score and 50 the pass score.

	Item	Description	AHEP3 LO	Percentage
1.	Assignments	Home-based exercises	SM1fl, EA1fl, EA3fl, ET2fl	60%
2.	Test	Knowledge assessment	SM1fl, ET1fl, ET2fl, ET3fl, ET5fl	40%
			Total Percentage:	100%

Teaching Material(s)
Textbook(s)

There is no official text for this modules. Notes are distributed in the class.

Reference

Reference book(s)

1. Matthew A. Russell (2013). Mining the Social Web: Data Mining Facebook, Twitter, LinkedIn, Google+, GitHub, and More (2nd Edition). O'Reilly Media.

2. Stephen P Borgatti, Martin G. Everett and Jeffrey C. Johnson (2018). Analyzing Social Networks (2nd Edition). SAGE Publications Ltd.

3. Charles Kadushin (2011). Understanding Social Networks: Theories, Concepts, and Findings (1st Edition). Oxford University Press.

4. Zafarani, R., Abbasi, M. A., and Liu, H. (2014). Social media mining: an introduction. Cambridge University Press.