

PhD in Economics, Statistics and Data Science (ECOSTATDATA)
Academic Year 2025-2026
Cycle XLI

Social Media Analytics

(Prof. R. Boselli)

1. Introduction

- a. Social Media: evolution and current landscape
- b. Social Media Analytics: definitions
- c. Business point of view
- d. Measurement Framework and Metrics
- e. From networks to algorithmic platforms

2. Content Analysis and Social Media Data

- a. Text Mining in Social Media
- b. Sentiment Analysis: methods and limitations
- c. From lexicon-based approaches to machine learning
- d. Introduction to modern NLP (embeddings, contextual models)
- e. Challenges: ambiguity, sarcasm, multimodality

3. Recommender Systems and Algorithmic Feeds

- a. Information overload and personalization
- b. User-item interactions and feedback (explicit vs implicit)
- c. Recommendation techniques (collaborative, content-based, hybrid)
- d. Ranking, engagement and optimization
- e. Case studies: TikTok, Spotify
- f. Social and behavioral implications

4. Orange Data Mining

- a. Introduction to Orange
- b. Text Mining with Orange
- c. Sentiment Analysis with Orange
- d. Clustering and Topic Modeling
- e. Interpretation of results and limitations

References:

- Batrinca, B., & Treleaven, P. C. (2015). Social media analytics: a survey of techniques, tools and platforms. *AI & Society*, 30(1), 89–116.

- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, 53(1), 59–68.
- Cosenza, V. (2012). Social Media ROI. Apogeo.
- Ricci, F., Rokach, L., & Shapira, B. (2015). *Recommender Systems Handbook*.
- Aggarwal, C. C. (2016). *Recommender Systems: The Textbook*.

Course Overview

Course: Social Media Analytics

Level: PhD

Duration: 12 hours (4 lessons x 3 hours)

Instructor: Roberto Boselli

Learning Objectives

- Understand the evolution of social media platforms
- Analyze user-generated content using text mining and NLP
- Interpret social media metrics and engagement
- Understand recommender systems and algorithmic feeds
- Critically evaluate methods and limitations
- Apply basic analytics using Orange Data Mining

Course Structure

Lesson 1: Evolution of Social Media Analytics

Lesson 2: Content Analysis and NLP

Lesson 3: Recommender Systems and Algorithmic Feeds

Lesson 4: Practical Lab (Orange)

Teaching Methods

Lectures, case studies, hands-on exercises, discussion.