Addressing the Impacts of Over-Tourism
Addressing the impacts of anthropogenic pressure on tourist destinations:
Can slow tourism be a solution to discover and to promote lesser-known points of interest in rural mountain regions?

Field of Study : Arts and Culture, Computer Sciences, *Digital Marketing, Social Media Mix*

SUPERVISORS

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KEYWORDS

Slow-tourism, Lesser-Known POIs, Serendipity, Social Networks, User Profiles

ABSTRACT

Over-tourism refers to the excessive influx of tourists to a particular destination. This leads to a number of problems, including environmental degradation (*pollution, infrastructure overload, waste generation*), a decline in quality of life for locals (*increased living costs, disturbances, erosion of local identity*), and negative visitor experiences (*long wait times, lack of personalization*). In this context, we hypothesize that many tourists would prefer alternative experiences that combine sports, culture, and lesser-known attractions, following a slow-tourism approach. Slow tourism encourages visitors to take their time, explore less crowded destinations, immerse themselves in local culture, and have a positive impact on the environment and local communities.

This research project aims to (1) create datasets of lesser-known cultural and heritage attractions in rural mountains using AI to analyze various data sources. (2) These attractions will be categorized and matched with visitor preferences. (3) Finally, we will develop "virtuous recommendations" to create personalized slow-tourism itineraries, connecting visitors with underutilized attractions and promoting positive impacts on local communities.

This research project on Cultural Heritage and Tourism aims to achieve three objectives. Firstly, it seeks to **(1) create datasets focusing on underutilized or lesser-known cultural and heritage attractions in rural mountain regions.** These data, often overlooked by tourism professionals, can be extracted from social media, books, documentaries, travel blogs, alternative guides, interviews, and local community resources. Building such knowledge bases is challenging due to the need to identify subtle signals within these resources. Secondly, **(2) the detected elements will be categorized as potential points of interest and matched with visitor preferences** (https://www.unwto.org). Artificial intelligence (AI) tools can greatly assist in this process. Finally, the ultimate goal is to **(3) generate and promote Points of Interest (POI) within alternative itineraries for rural mountain regions**, tailored to the specific needs and preferences of individual travelers, aligned with a slow-tourism philosophy. We refer to this as "virtuous recommendation" which connects the potential of underutilized attractions with visitor profiles, considering factors such as time constraints, mobility, and the desire for authentic experiences and positive community impact.

Methodology:

Phase 1 - Identifying relevant datasets for various territories, which can be sourced from diverse platforms such as Open Data, social media, and tourist guides. Subsequently, developing methods to detect weak signals within these datasets.

Phase 2 - Analyze and categorize these lesser-known POIs for use in various tourism applications.

Phase 3 - Develop visitor profiles that outline their preferences and needs to recommend sustainable itineraries based on a slow-tourism approach that considers the local context.
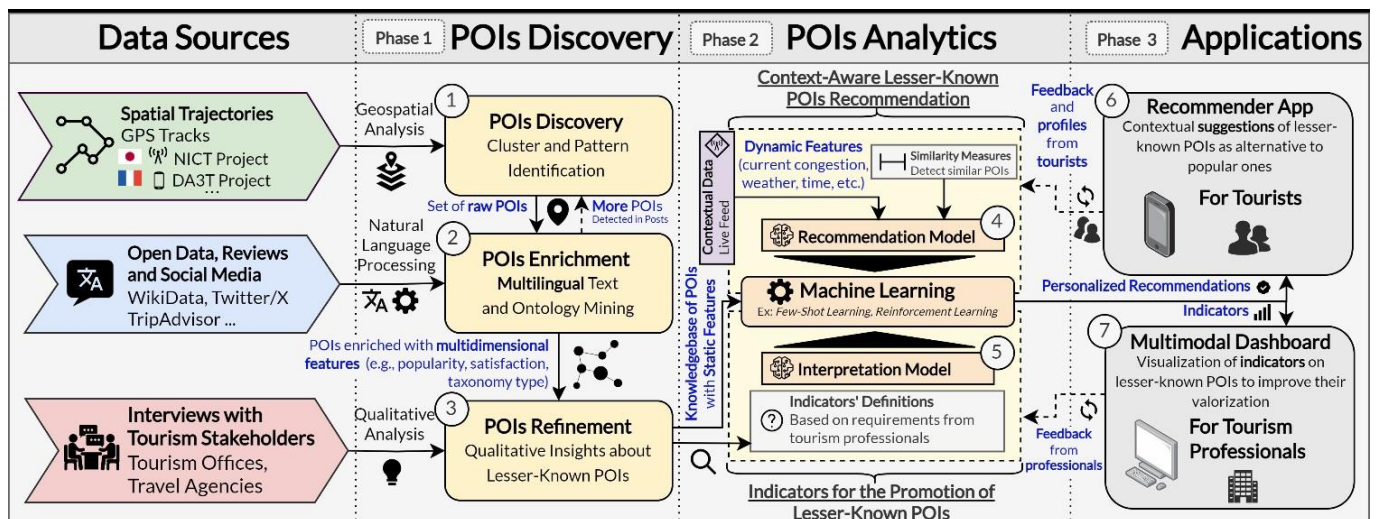

Figure 1. Research Methodology Overview
Source: Developed by the members of this project.

Relevance and added-value of the proposed research in relation to the current state of knowledge

This research project will address several scientific challenges, including:
- Developing a methodology for constructing multi-source datasets.
- Creating a model for structuring heterogeneous data.
- Providing tourism datasets for a specific target territory.
- Identifying indicators of weak signals and developing a method for discovering lesser-known POIs.
- Developing a strategy for recommending sustainable itineraries.

Likewise, in the field of tourism applications, this research offers numerous contributions:
- Multidisciplinary solutions.
- Dedicated dashboards for tourism professionals.
- New sustainable itineraries tailored to environmentally conscious tourists who seek authentic experiences.

Interdisciplinary nature of the research together with the alignment with the CHORAL programme and complementarity expertise of the teams

Slow tourism has far-reaching social, cultural, economic, and environmental implications, extending beyond mere cultural heritage preservation. It fosters active community and tourist engagement in promoting local identity. AI tools will facilitate deeper connections between tourists and destinations, enabling them to contribute to protecting places, people, and traditions (Flores & Rezende, 2022)[1], thus preserving cultural values. Economically, slow tourism can alleviate overtourism's pressure on prices and the cost of living. Environmentally, it reduces pollution, overcrowding, and waste in overpopulated areas.

In this context, an interdisciplinary approach is absolutely necessary to understand the mechanisms underlying tourists' participation in cultural preservation through slow tourism. It involves studying tourists' behaviors from a consumer behavior perspective, assessing the impact on tourist destinations through an economic perspective, and discovering how tourist destinations in rural mountain regions become targets of slow tourism, the conservation and exploitation of the sociocultural potential of lesser- known rural mountain regions.

The project team brings together complementary expertise. Sébastien Laborie from the University of Pau is an expert in information systems and Semantic Web technologies, while Bianca TESCAŞIU from the University of Transylvania specializes in communication marketing, social media mix, and tourism marketing.

Output plan including publication and dissemination activities

Output plan:

1. Identification of lesser-known POIs.

2. POI classification for diverse tourism applications.

3. Development of visitor profiles.

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[1] Flores, Carla Cavichiolo; Rezende, Denis Alcides (2022): Crowdsourcing framework applied to strategic digital city projects, Journal of Urban Management, ISSN 2226-5856, Elsevier, Amsterdam, Volume 11, Issue 4, pp. 467-478.

Dissemination plan:

1. Creation of newsletters highlighting lesser-known POIs identified as suitable for slow tourism (e.g., Recommender App and Multimodal Dashboard) and their distribution to tourists and tourism agencies (Tourism professionals) in the targeted regions.

2. Organizing a workshop in one of the mountain regions where points of interest for slow tourism have been identified, with the participation of formal and informal representatives of local communities, guesthouse owners, travel agencies, and independent tour guides.

3. Publishing an article in a specialized scientific journal (e.g., WOS or BDI) on the research conducted and the results obtained.

Estimated schedule

Output	Due date
Scientific reports (SR)	
SR 1	June 2026
SR 2	December 2026
SR 3	May 2027
Articles	
Article 1	September - October 2026
Article 2	March - April 2027
Article 3	December 2027 - January 2028
International Conferences (IC)	
IC1	December 2026
IC2	April 2027
IC3	December 2027
PhD thesis	September 2028