



Department of Geography and Geoinformation Science

4400 University Drive, MS 6C3, Fairfax, Virginia 22030

Phone: 703-993-1210, Fax: 703-993-9299

Email: ggs@gmu.edu Web: ggs.gmu.edu

GG5 590 - Spring 2015 Course Project

Important dates:

Proposal submission by: 2/17/2015

Project presentations¹: 4/21/2015, 4/28/2015

Written report due by: 5/8/2015

Overview and scope

In this course we review and explore various topics that relate to the theory and practice of geosocial analysis. The goal of the course project is to bridge theory and practice by providing you the opportunity to gain hands-on experience with implementing geosocial analysis methods on real-world data in order to discover new knowledge.

In order to accomplish this your project should include and integrate the following elements:

1. A clear research question related to the theory, methods, or application of geosocial analysis.
2. Real-world data harvested from at least one social media source.
3. Integration of geosocial analysis methods, including data collection, data analysis (in particular content, social and spatial networks, and clustering), and visualization.
4. Show relevance to at least one real-world application, and demonstrate it through real-world data.

Please note that although not mandatory, you are encouraged to develop your own analysis tools and workflows using a programming language of your choice (you are highly encouraged to use Python and/or Matlab). A **5% bonus** will be given to projects that include develop such a programming element.

The project proposal (20%)

1. Blogs will be written in teams of 2 members.
2. Please select a project topic that in your view would be **original** and of interest to the entire class. At the same time, please make sure your project's scope is not too broad or ambitious for the course timeline.
3. All projects must use at least one real-world social media data set. A **5% bonus** will be given to projects who **effectively** utilize more than one source (e.g. Twitter and Flickr, or Flickr and Instagram, etc.) to accomplish the project goals.
4. Each team will submit a topic abstract for approval, which includes:
 - a. The proposed project title
 - b. The full names of the team participants
 - c. A set of 3-5 keywords (free form)

¹ The presentation date for each group will be assigned by the instructor after the project proposals have been approved.

- d. An extended abstract (between 1000 and 1500 words) summarizing the topic and key themes you expect to address in your project. Your abstract should address the following questions:
 - What is the research question and/or hypothesis?
 - Why is proposed topic of interest and relevant to geosocial analysis?
 - How does your research question relate to prior work?
 - What is your plan for addressing the question? What analysis and visualization methods will you use?
 - What outcomes and deliverables are expected as a result of your work?
- e. Your abstract should include a list of 5-7 high-quality academic resources (e.g. peer-reviewed journal articles, fully refereed conference proceedings). All references must be cited in the abstract body. In addition, you may use other resources (e.g. book chapters, news articles) **in addition** to these academic resources.

Class presentation (30%)

A key element in your project is the class presentation. In it you will be given an opportunity to showcase your work as well as your knowledge and your presentation skills. Generally, all team members will take an active role in their group presentations. Each team member must present at least some aspect of the topic; you are free to decide how to organize your presentation, how many slides to use, as well as what to include in it. Presentations must be at least 20 minutes long and should not extend beyond 25 minutes, followed by a Q&A session. **Generally, the structure of your presentation should follow the structure of a fully-refereed conference presentation.** You are welcome to use your notes during your presentation, but you should refrain from building your entire presentation around reading directly from your slides or notes. You are highly encouraged to be **creative** in your presentation, and use a variety of audio-visual media and resources.

Project Paper (50%)

To summarize your project you are required to submit a written paper. Your paper should highlight the key elements of your project. Generally, these elements include (but are not limited to):

- Introduction and motivation
- The research question (and hypothesis) and the objective of the work
- The data used
- The analysis methods
- The results
- A discussion of the key findings and their significance
- A summary of the key conclusions and outcomes of the work
- Suggestions for possible future extension of the work performed.

Your project paper should be submitted in the ACM SIG Proceedings format (MS-Word and LaTeX templates are available at <http://www.acm.org/sigs/publications/proceedings-templates>), and should be between 6000 to 8000 words (including references).

Appendix: Available Twitter Datasets

For the purpose of your project we can offer datasets on the following topics. Please note that these datasets may vary in terms of their overall volume and attributes.

- President Obama
- Boko-Haram
- The Philippines
- 2012 London Olympics
- "The Walking dead"
- "Zombies"