1 General Information

This course will introduce basic concepts and techniques related to Spatial Big Data from a computational perspective. Spatial Big Data (SBD), e.g., GPS trajectories, earth observation imagery, temporally detailed road networks, etc., refers to geo-referenced data whose volume, velocity, and variety exceed the capability of current spatial computing platforms. SBD has the potential to transform our society in location-based games like Pokemon Go!, environmentally friendly routing, precision agriculture, and global water resource management. Topics to be covered include: Introduction to Spatial Big Data Analytic, Types of Spatial Big Data, Spatial Statistic Foundation, Spatial Colocation Discovery, Spatial Outlier Analysis, Spatial Prediction, Spatial Hotspot, Spatial Summarization, Spatial and Spatiotemporal Change, Spatial Big Data Platform, Spatiotemporal Big Data, and Recent Trends. The specific topics are subject to adjustments through semester by the instructor.

- **Class Schedule**: Mon-Wed 3:30 PM - 4:45 PM, Houser Hall 3031
- **Instructor**: Zhe Jiang, http://zhejiang.cs.ua.edu, zjiang@cs.ua.edu, Office: SEC 3435
- **Office Hours**: Mon, Wed 2:00 PM - 3:30 PM
- **Class Website**: http://zhejiang.cs.ua.edu/Teaching/Spring17/SpatialBigData/
- **Textbook**: No required textbook.

2 Exam, Assignment, and Grading Policy

The class has four question-answer assignments, one in-class news presentation, as well as project related deliverables and presentations. There is a close-book midterm exam (and possibly a close-book final exam as well according to student performance of midterm exam). All course assignments and presentations are done in teams of two. Each assignment should include a brief statement on the contribution of each member. The course project involves solving a real world spatial big data analytic problem. Students are required to discuss with the instructor to determine the project topic and datasets to use, and to update project progress in project-related assignments. The grading policy is as below:
• News presentation: 5%
• Question answer assignments: 30%
• Exams: 25% if Midterm only (35% if with a final exam)
• Project assignments: 40% (it will be 30% if there is a final exam)

Note: CS 591 has extra questions in assignments and higher standards in project requirements (i.e., designing a novel and better approach over the current state of the art), compared with CS 491.

3 Policy on Missed Assignment and Exam

In the event that you miss any of the assignments or exams, please email the course instructor as soon as possible to determine the appropriate make-up action. You are strongly encouraged to make arrangements prior to any known absences. Non-valid excuses will result in a score of zero for the assignment or exam.

Each team will be assigned 2 individual slip days. Slip days are actual calendar days, so if class does not meet on one of those days, you will have to email your assignment to the instructor. After slip days are used up, a penalty of 30% will be deducted from score for the first 24-hour period your assignment is late; a penalty of 70% will be deducted from score beyond a 24-hour period; late assignments will not be graded once assignment feedbacks are returned.

All make-up actions must be completed before the tests or assignments are graded and returned to the class. No make-up actions will be taken after this time.

4 Attendance Policy

Regular attendance is your responsibility. If you choose to miss class it is also your responsibility to make up all work missed.

5 Academic Misconduct

Students are expected to be familiar with and adhere to the official [Code of Academic Conduct](#) provided in the Online Catalog.

6 Disability Accommodations

Contact the [Office of Disability Services (ODS)](#) as detailed in the Online Catalog.