Readings in Climate Data Science

STAT GR8101 Topics in Applied Statistics
Cross-listed with EAEE and DEES

Class Information
➢ Instructor: Tian Zheng (tz33@columbia.edu)
➢ Meeting time: Thursday 2:10 PM - 4:00 PM
➢ Classroom: TBD
➢ Class website: Courseworks

Course Description
This is a discussion-based “journal-club” style

Learning Objectives and outcomes

Objectives
● Expose geoscience students to cutting-edge data science methodologies;
● Expose data science students to open climate and ESM parameterization problems;
● Collaboratively engage students from both disciplines in discussion-based learning.

Outcomes
● Knowledge of climate data science: climate system models and machine learning.
● Research skills in reading and summarizing literature, problem setup, and hypothesis generation.
● Collaboration skills in peer learning and translational skills

Requirements and grading
Students are expected to participate in weekly “journal club” style lectures.
● Finish assigned reading before each weekly meeting
● Prepare presentation and discussion as assigned
● Attend LEAP’s Lectures in Climate Data Science talks (Selected Thursdays at 3PM).
● Final project: a short literature review on a climate data science topic selected in discussion with the course instructor and research mentors.

Grading
● Short written assignments in response to assigned readings (20%)
● In-class presentation (20%)
● Discussion participation (10%)
● Final project (50%)
Statement of academic integrity:
All assignments in this class are to be completed in accordance with Columbia’s Student Conduct and Community Standards.

Courseworks
Courseworks (https://courseworks2.columbia.edu/) will be used extensively throughout the semester for posting readings, assignments, announcements, and other communication.