

Faculty Sponsor: Stan Osher
Research Mentors: Mike Lindstrom (instructor)
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Weekly Group Meetings and Lectures*:

Wed 4-5 pm and Thurs 9-10 am in MS 6943 (Chair’s Conference Room)

Course Description: Studying homeless movements in Los Angeles through data science, machine learning, and modelling

Expectations: Researching and coding simulations: 4-6 h/week (2 credits) 10-11 h/week (4 credits)
 Report Writing: 1-2 h/week (2 credits) 1-2 h/week (4 credits)
 Weekly Meetings/lectures: 2 h/week

Grading Scheme: Attendance and Research: 45% (attending meetings, task work and completion)
 Oral Exam: 20% (individual questions about the math and work)
 Final Presentation: 10% (presenting the work as a group to public audience)
 Midterm Report: 5% (written report of overall findings mid-quarter)
 Final Report: 20% (written paper of overall findings of the work)

Week	Research Activity
0	W: Sept 27 th (1 – 3 pm) – Course orientation, project background, open questions, MATLAB fitting
1	Lecture and/or meeting
2	Lecture and/or meeting
3	Lecture and/or meeting
4	Lecture and/or meeting
5	Lecture and/or meeting F: Nov 3rd – Midterm report due by 5 pm
6	Lecture and/or meeting
7	Lecture and/or meeting
8	Lecture and/or meeting
9	Lecture and/or meeting
10	W: Dec 6 th Final research meeting & practice presentation R: Dec 7 th Extra time to practice, fix slides, etc. W : December 6th – Oral exam – individual times to be set W: December 6th - Final report due by 5 pm R: December 7th – Final Presentation at 3 pm

* Lecture topics could include: *Markov processes, clustering algorithms, optimization, likelihood estimates, principal component analysis, etc.* Not every week will have a lecture; some of these topics may be covered and others not listed may be relevant.