

CMSE 802 - Methods Computational Modeling

Fall 2019

Course Number: CMSE 802

Title: Methods Computational Modeling

Time: MWF - 9:10 AM - 10:00 AM

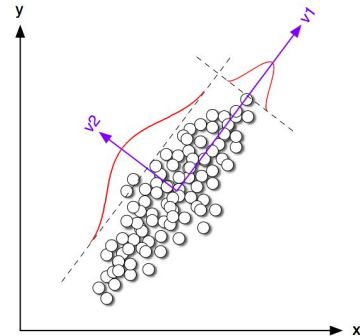
Location: [1220 Engineering Building](#)

Prerequisite: Programming experience is expected (CMSE 801 or equivalent). Most of the course will be taught in Python using Jupyter notebooks

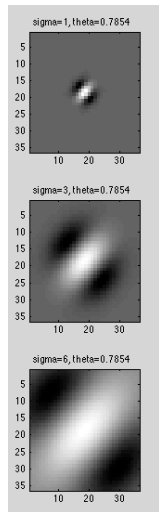
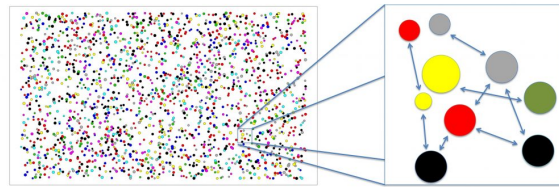
Instructor: Dirk Colbry

Email: colbrydi@msu.edu

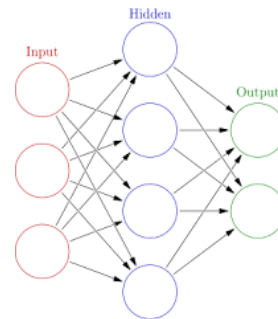
Office: 1516 Engineering Building



Motivation: Computational science uses computers to solve problems, simulate phenomena, and create knowledge. Over the course of this semester, we will explore various aspects of computational science. We will learn standard modeling methods and tools, as well as programming (in Python), code-management, and basic data science techniques. These techniques and skills will be applied to student's own research.



Format: This is a project-focused course with topics primarily driven by the research interests and needs of the students. Students will work with the instructors to come up with specific learning goals and objectives relating to using computational science techniques to solve problems related to their research area. All students will be expected to present their work to their peers with a final goal of distilling what they have learned in the form of example codes and training materials that can be shared with future students. Some results may be submitted to related conferences and journals.



This course is taught using a flipped classroom format similar to CMSE 201/801. In a flipped classroom, students watch video lectures outside of class and then work individually and in groups to solve problems during class. Class examples and assignments will be done using the Python programming language.

Questions? Contact the instructor for more information, or to obtain an enrollment override.