

Welcome to CSS 2!!

March 28, 2022

Today

1. Introductions
2. Course overview
 - Lecture & lab
 - Resources
 - Assignments & grades
 - Course material

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2. Course overview

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Erik Brockbank

ebrockbank@ucsd.edu

Office hours

9:00-10:00am Friday

2588 Mandler Hall

<https://ucsd.zoom.us/j/7131149147>

I'm here to help and support you!



Purva Kothari

pukothar@ucsd.edu

Office hours

10:00-11:00am Wednesday

1507 Mandler Hall

<https://ucsd.zoom.us/j/93025194368>



Who are you?

Name

Year and Major

Something you're passionate about or like to do in spare time

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Course Overview

Lectures:

M / W / F, 8:00-8:50am
CENTR 222

Lab:

M, 11:00-11:50am
W, 9:00-9:50am
ERCA 117

Course Overview

This class is going to be an in-person adventure!



Course Overview

This class is going to be an in-person adventure!

If you need to miss a lab or lecture, shoot me an email ahead of time so we can figure out how to keep you on track!

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This class is going to be an in-person adventure!

My commitments to you:

1. Health and safety come first
2. We will stay up to date with the latest UCSD policies
3. I will do everything I can to make this a supportive and successful learning environment!

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Course Overview

Resources

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Resources

Course website: <https://ucsd-css-002.github.io>



View syllabus, class schedule, policies



Download lecture notes, access other resources



UCSD CSS 2

Welcome to CSS 2

This course explores the use of computational methods across the social sciences. Topics include thinking like a computational social scientist; research design for big data; legal and ethical dimensions of Computational Social Science (CSS). Students will implement demonstrations of these methods in Python.

Course Overview

Resources

Campuswire: <https://campuswire.com/p/GAEAAD197>

Use code **2109** to join the course



Ask questions about homework or labs



View other students' questions and the answers they got



Lend a hand by answering other students' questions!



 Notifications

 DMs

 Search

Class feed

CSS 2: UCSD CSS II

All categories



+ New post

Class feed at a glance

Pinned posts



Unresolved 0

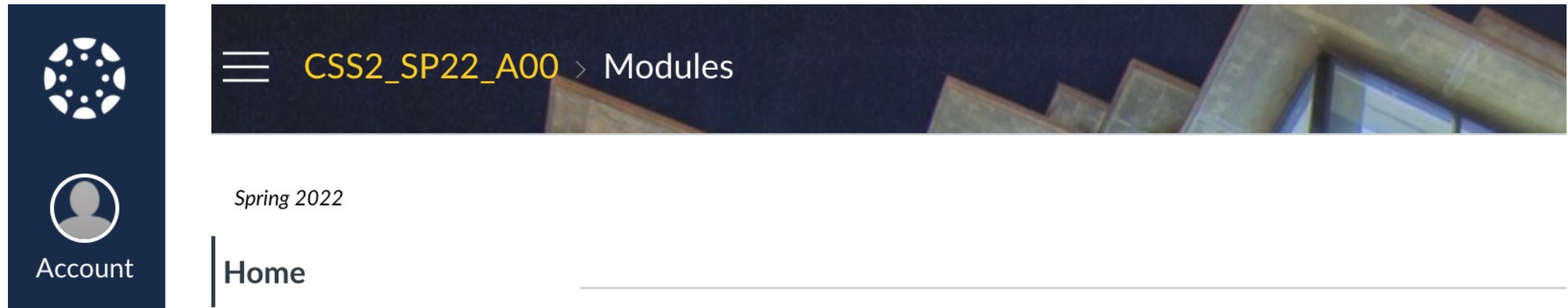
Unread 0

Course Overview

Resources

Canvas: <https://canvas.ucsd.edu/courses/36054>

💡 View grades



Course Overview

Resources

Datahub: <https://datahub.ucsd.edu/>



View, work on, and submit problem sets and labs



Create new jupyter notebook files for taking notes



View feedback from graded problem sets and labs



Logout

Control Panel

Files

Running

Clusters

Formgrader

Announcements

Assignments

Courses

Select items to perform actions on them.

Upload

New ▾



☐ 0 ▾  /

Name ▾

Last Modified

File size

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Course Overview

Grades

Course Overview

Grades

- 40% weekly problem sets (weeks 2-9)
- 35% weekly lab exercises (weeks 1-10)
- 15% final project
- 10% participation

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Course Overview

Problem sets and labs

- Hosted on UCSD datahub
 - See <https://ucsd-css-002.github.io/course/datahub.html>

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Problem sets and labs

- Hosted on UCSD datahub
 - See <https://ucsd-css-002.github.io/course/datahub.html>
- Labs
 - Group work meant to be finished during the lab
 - Due one week after lab in case you need more time to finish
- Purpose: practice the things demonstrated in lecture, teach and learn from your classmates (and Purva!)

Course Overview

Problem sets and labs

- Hosted on UCSD datahub
 - See <https://ucsd-css-002.github.io/course/datahub.html>
- Problem sets
 - Individual work meant to be completed outside of class
 - Due every Sunday (starting in week 2)
- Purpose: get comfortable doing the things you learned about in lecture and lab on your own

Course Overview

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Course Overview

Final project

See <https://ucsd-css-002.github.io/course/final.html>

Task: complete a large, well-motivated analysis of real-world data

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Setup: work with a group of ~5 people

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See <https://ucsd-css-002.github.io/course/final.html>

Task: complete a large, well-motivated analysis of real-world data

Setup: work with a group of ~5 people

Deliverable: a jupyter notebook with (a) a summary of your data incl. cleaning and formatting steps, (b) graphs showing key patterns in your data, (c) modeling and analysis of your data

Course Overview

Final project

See <https://ucsd-css-002.github.io/course/final.html>

Task: complete a large, well-motivated analysis of real-world data

Setup: work with a group of ~5 people

Deliverable: a jupyter notebook with (a) a summary of your data incl. cleaning and formatting steps, (b) graphs showing key patterns in your data, (c) modeling and analysis of your data

Goal: Use the tools we learn about in this class to explore patterns in a large, publicly available data set

Course Overview

Final project

See <https://ucsd-css-002.github.io/course/final.html>

Task: complete a large, well-motivated analysis of real-world data

Setup: work with a group of ~5 people

Deliverable: a jupyter notebook with (a) a summary of your data incl. cleaning and formatting steps, (b) graphs showing key patterns in your data, (c) modeling and analysis of your data

Goal: Use the tools we learn about in this class to explore patterns in a large, publicly available data set

Present in lab on 6/1, turn in final version by 6/8

Course Overview

Grades

- 40% weekly problem sets (weeks 2-9)
- 35% weekly lab exercises (weeks 1-10)
- 15% final project
- 10% participation

If you come to class and lab, do your best to answer questions, and ask if you're confused, you will get full participation points!

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Course Overview

Material

See <https://ucsd-css-002.github.io/course/syllabus.html>

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Week 1

- Python review



IMPORTANT: if you're struggling with the review material this week, we will need to figure out how to get you up to speed!

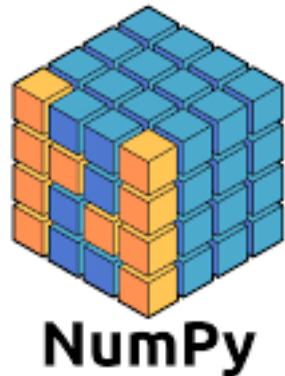
Course Overview

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Week 2

- Python tools for doing data science
 - numpy
 - pandas



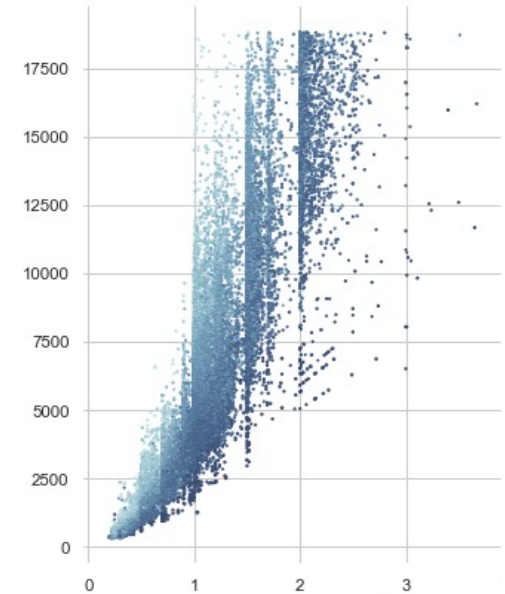
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Week 3

- Python tools for graphing data
 - matplotlib
 - seaborn



NOTE: in week 3 we will have two *guest lectures* and one recorded lecture so things may be a little hectic!

Course Overview

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Week 4

- Python data modeling fundamentals
 - cleaning and structuring your data
 - formatting and processing your data



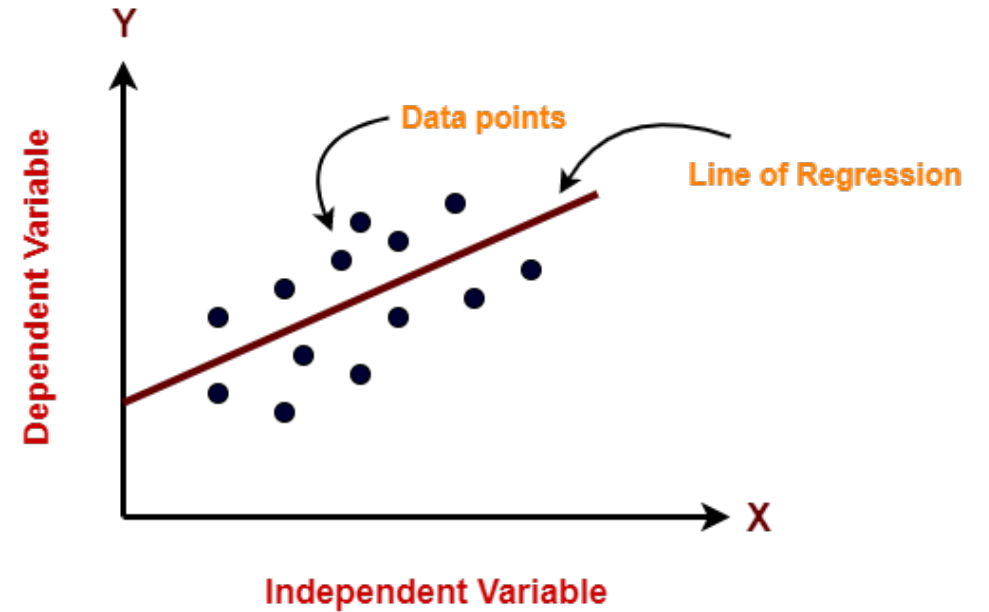
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Week 5

- Using models to make *predictions*
 - linear regression and friends



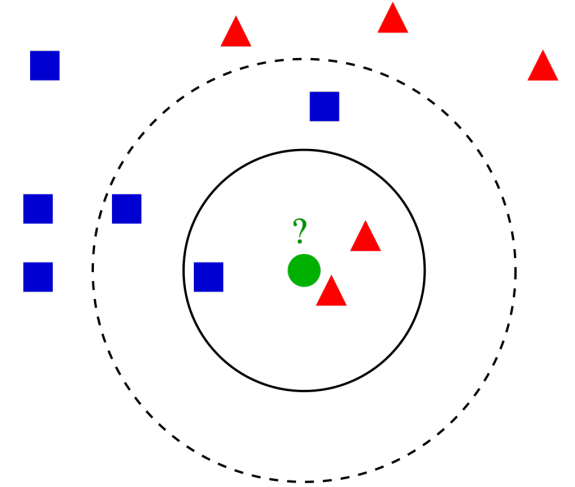
Course Overview

Material

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Week 6

- Using models to perform *classification*
 - k-nearest neighbors, logistic regression, and friends



Course Overview

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Week 7

- Using models to perform *classification* cont'd.
- Special topic: ethics in data science



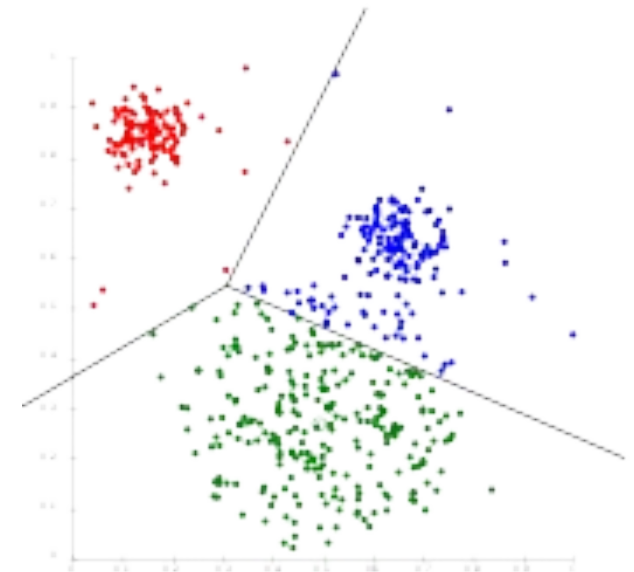
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Week 8

- Using models to perform *clustering*
 - *supervised* versus *unsupervised* modeling
 - k-means clustering and friends



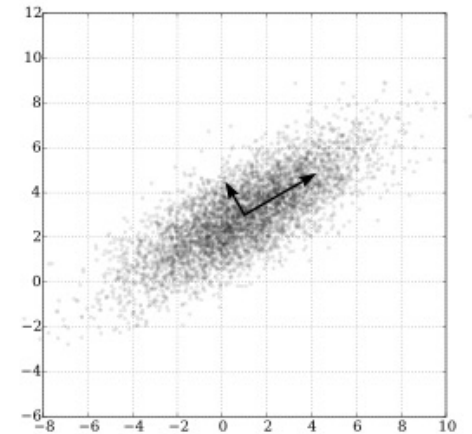
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Week 9

- Using models to perform *dimensionality reduction*
 - principal components analysis and friends



Course Overview

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Week 10

- Review
- Plus work on your final projects

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Questions?

