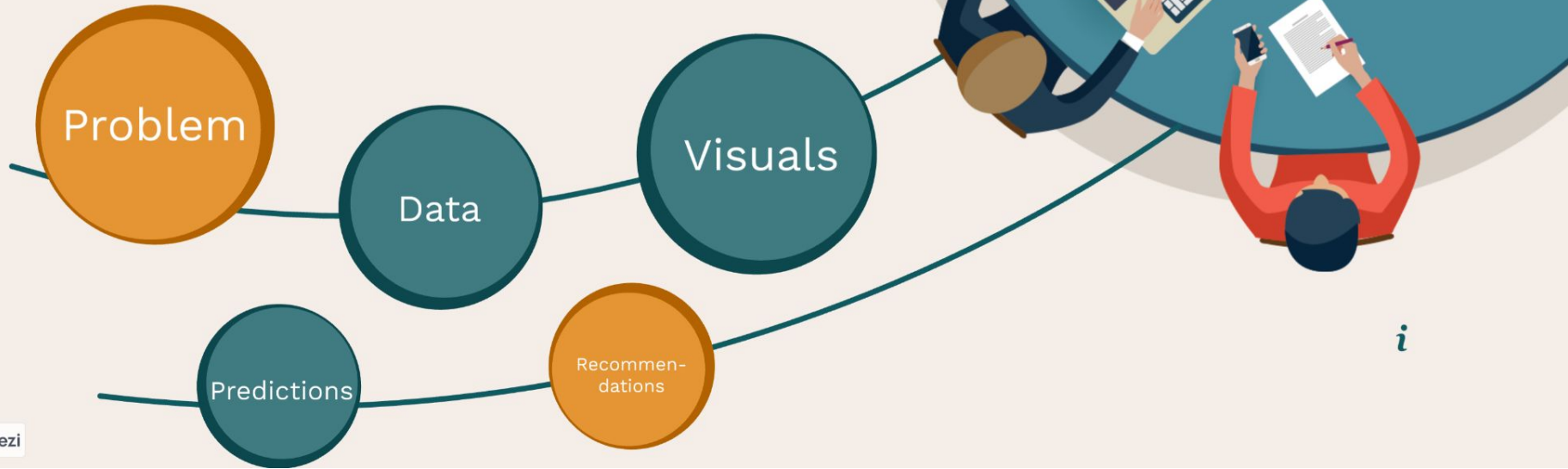


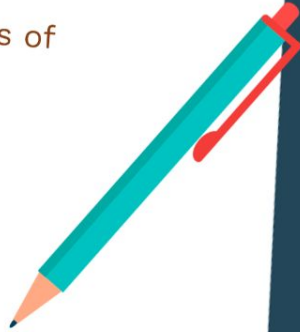
# Predicting University Grades

Kellianne Yang



### What makes a grade?

- The student's dedication or motivation?
- Their talent/intellect?
- Social pressure from family and friends?
- The attributes of the class?



# Problem

How to get the best grade?

Who  
cares?

# People

Who is interested?



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Students



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from the Noun Project



Parents



Career  
Services



Academic  
Advisors



Professors



Created by Template



Tutoring  
Services

# Data

University of Wisconsin  
2006-2018  
Courses and grades



Dive  
in!

[https://www.kaggle.com/datasets/Madgrades/  
uw-madison-courses](https://www.kaggle.com/datasets/Madgrades/uw-madison-courses)

# Data

One row = one section



Subject (math,  
English)



Instructor  
(by ID)



Schedule (days  
of week, length,  
start time, term)



Course name,  
number; section  
type



Grade counts  
(how many As,  
ABs, Bs)

# Visuals

Grades by  
Course  
Level

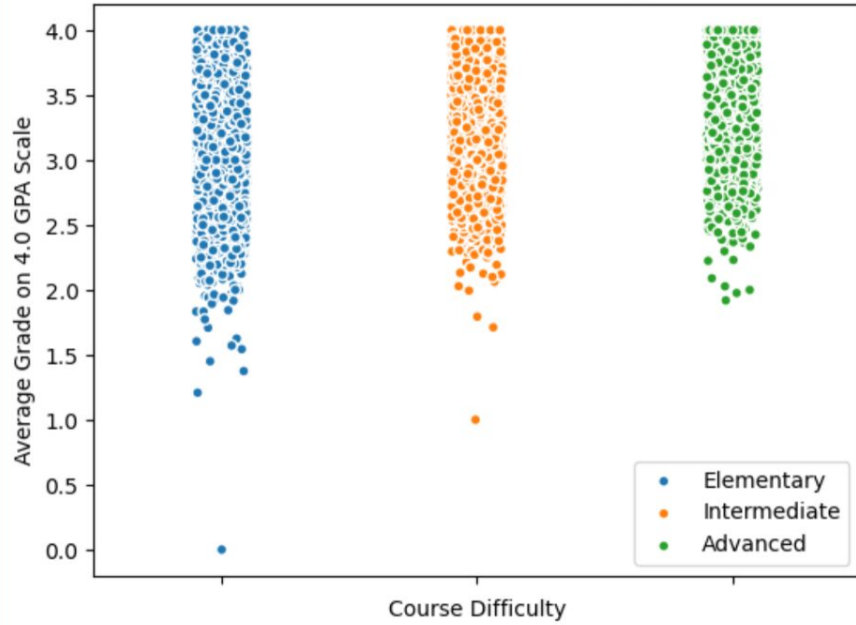
Grades by  
Start Time

Grades by  
Subject

Grades by  
Instructor  
Experience

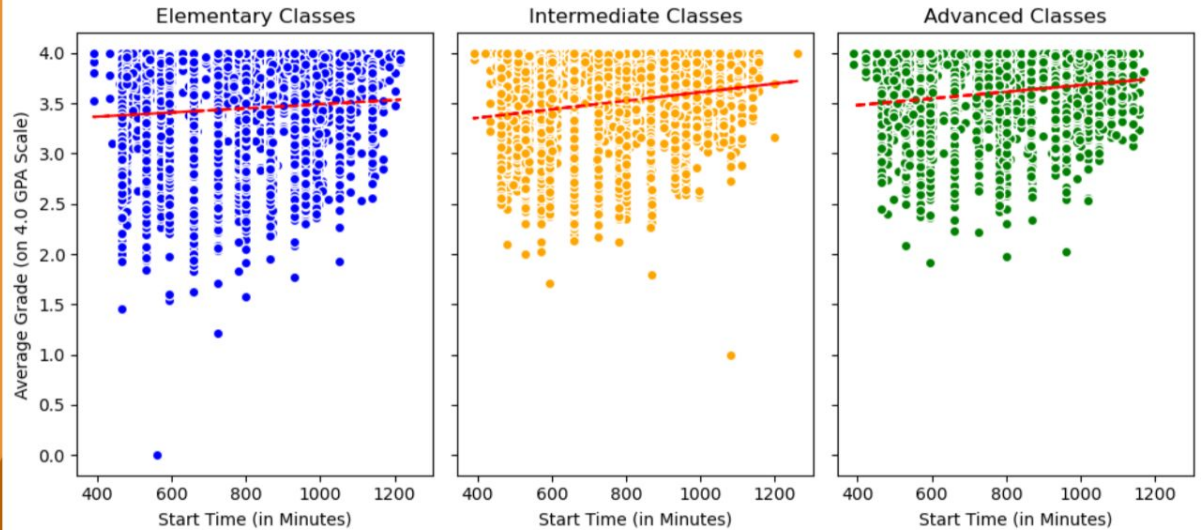


More Advanced Courses Give Out Higher Grades



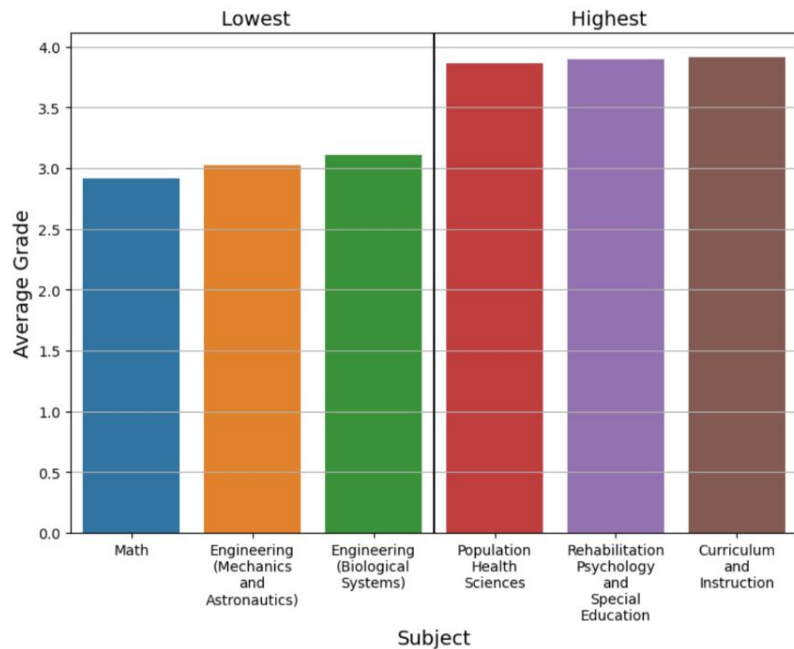


## Later Classes Give Out Higher Grades

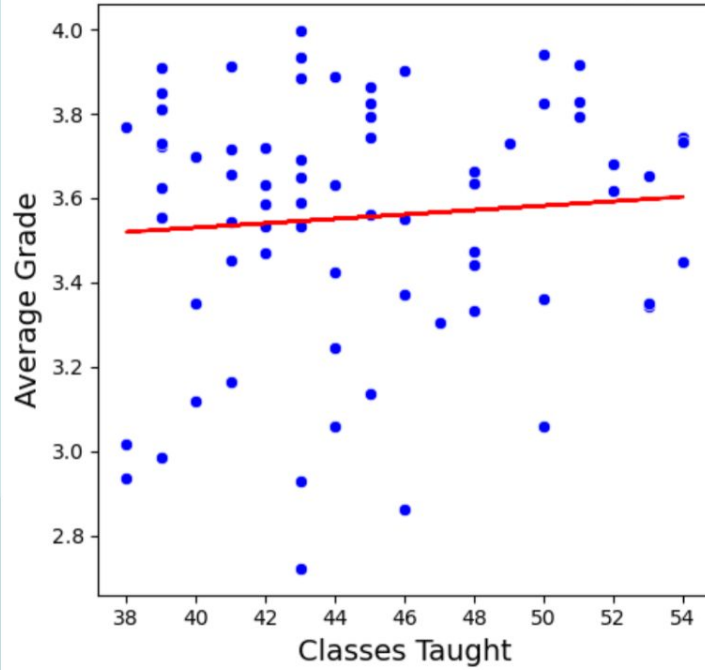




## Which Subjects Give Out the Highest and Lowest Grades?



## More Experienced Instructors Give Out Higher Grades



## Grade Point Scale

A: 4.0

B: 3.0

C: 2.0

D: 1.0

F: 0.0

# $\pm 0.16$ average grade points

Random Forest Regressor  
Mean Absolute Error



# Recommendations

Take classes that...



Start later in the day



Are at higher levels



Belong to "easier" subjects



Are taught by more experienced instructors

