CSCI 556:
Data Analysis & Visualization

Instructor: Dr. Jinoh Kim

This course…

- Entry-level course for AI/data systems track
  - Topics are introductory without in-depth discussion of algorithms and methods
- Not recommend to those who have taken any "advanced" course in machine learning or data mining (e.g., CSCI527 Data Mining, CSCI574 Machine Learning)

First Week

- Syllabus discussion
- Course overview
- Action items for first week

The Instructor

- Jinoh Kim, PhD (call me "Dr. Kim")
  - Asst/Assoc Professor @ TAMUC, 2012-present
  - Assistant Professor @ LHUP, 2011-2012
  - Researcher @ Berkeley Lab, 2010-2011
  - PhD from U of MN
- Research areas:
  - Networked systems and security
  - Systems/network telemetry and analytics

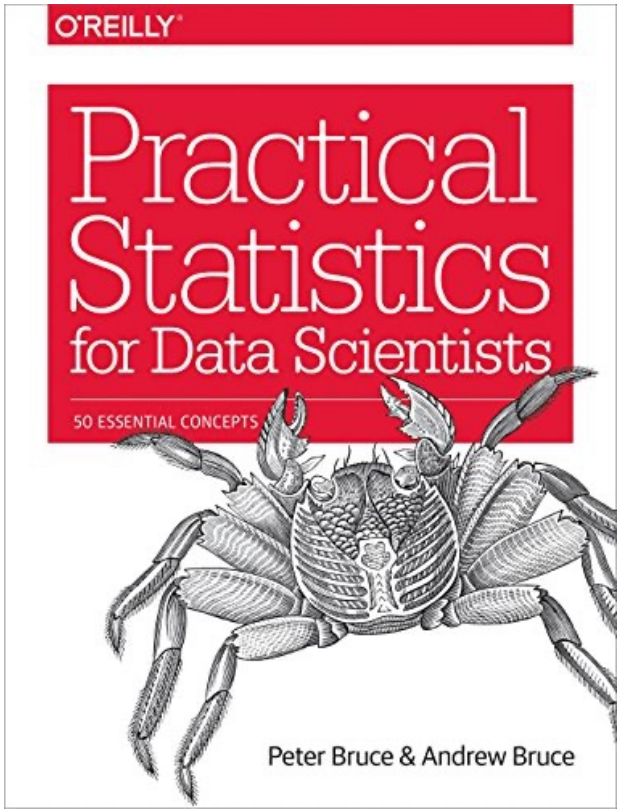
Office Hours

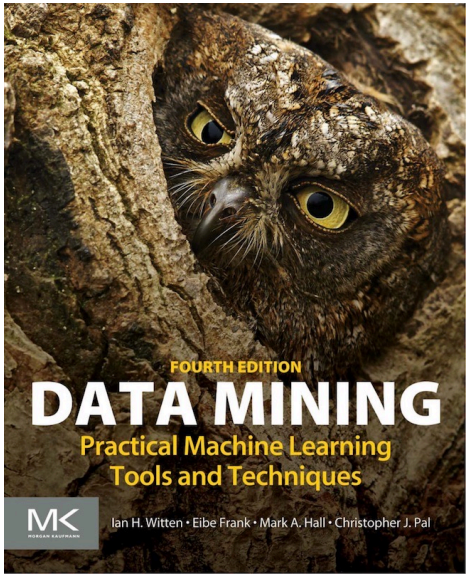
- Office: CS/JOUR 217
- Office hours (Appointment-based):
  - Will be posted on the course page
- Email communications
  - To: Jinoh.Kim@tamuc.edu
  - Indicate the course number in the email subject line
- Welcome your visit not only for the course but also for your research and career build-up

Communications

- Online course
- Communicating thru (1) course page and (2) email communications
  - REQUIRED: Read announcements from the course page frequently (at least three times a week) and email messages from the instructor without any significant delays (less than 48 hours).
  - Instructor may not reply over weekend (Fri evening ~ Mon morning)
- Instructor email: Jinoh.Kim@tamuc.edu

Textbooks





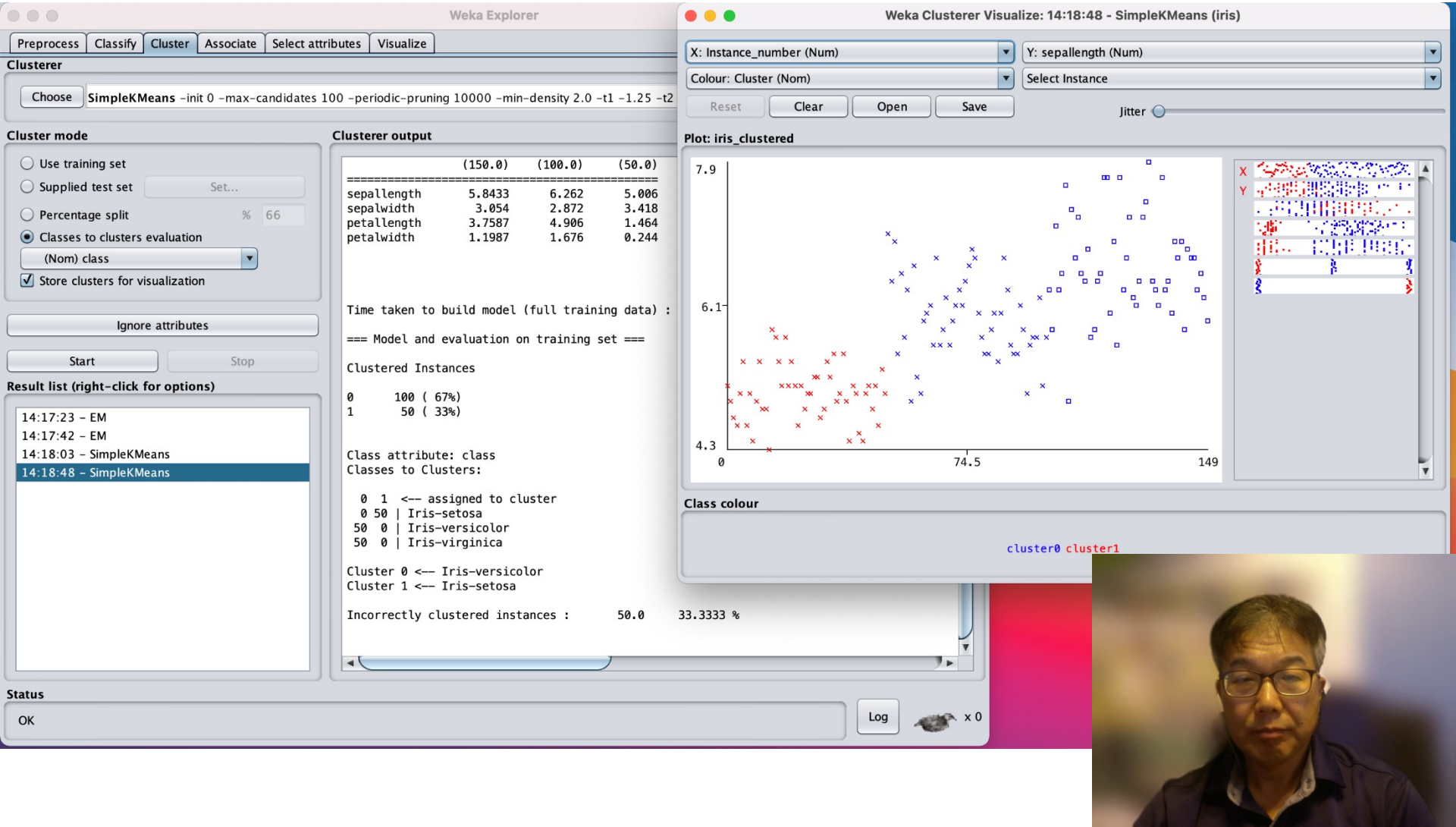
(Optional) Data Mining: Practical Machine Learning Tools and Techniques, 4th Edition. ISBN-13: 978-0128042915, ISBN-10: 0128042915

- (Mandatory) Practical Statistics for Data Scientis Essential Concepts), 1st Edition, ISBN 10: 14919 13: 9781491952962
- Course materials (e.g., slides, hand-outs) will be

Course Highlights

- Learn data analysis concepts
  - Data exploratory analysis and statistics
  - Classification, regression, clustering
- Utilize an open-source data analysis and visualization tool: Weka
  - http://old-www.cms.waikato.ac.nz/~ml/weka/

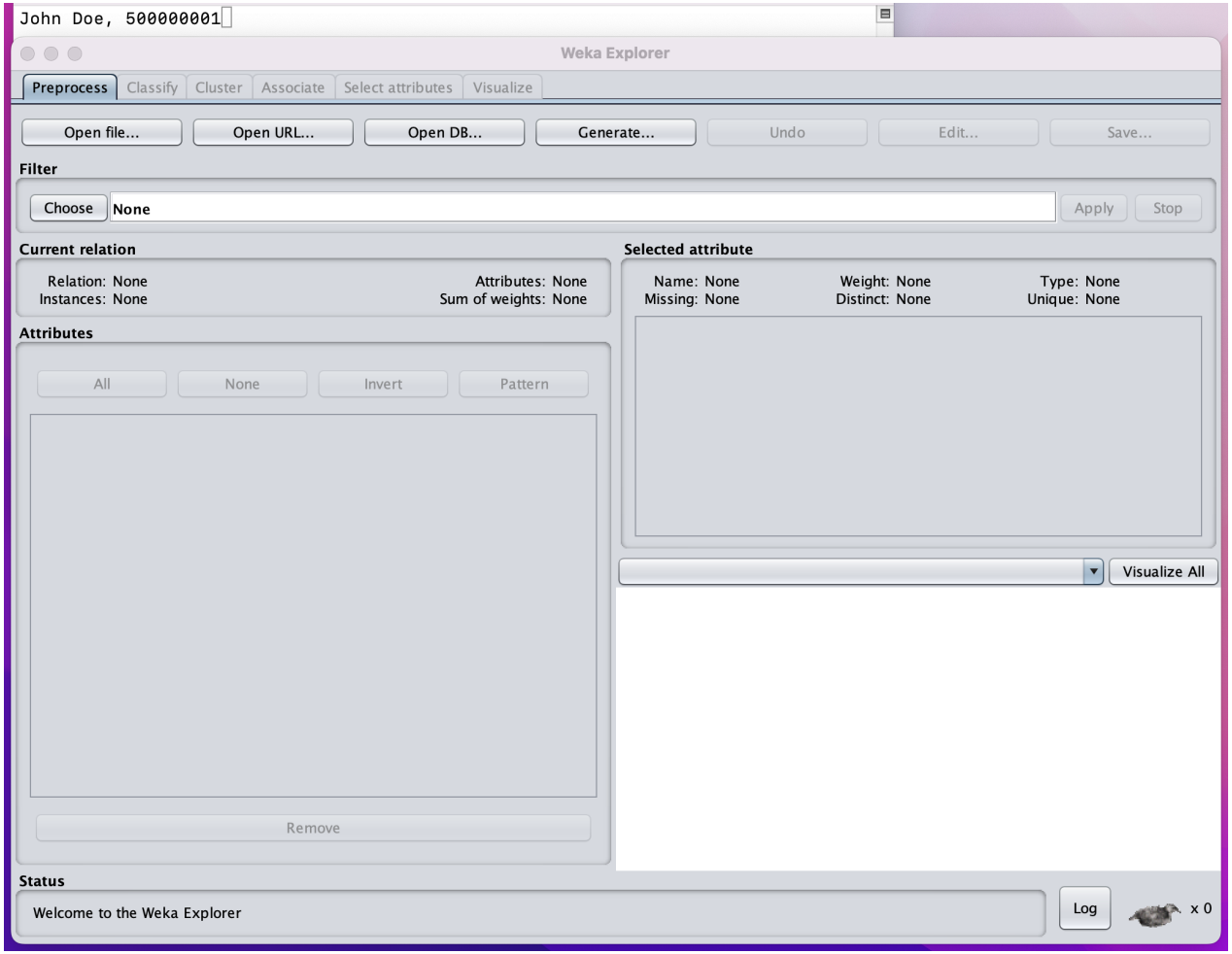
Using Weka (Example)



Extra credit (1%)

- Install WEKA and submit a captured Explorer screenshot to "WEKA install" under Assignments
  - Download: https://waikato.github.io/weka-wiki/downloading_weka/
  - Watch and try: https://youtu.be/TF1yh5PKaqI
  - Weka manual is available in the course page
- Deadline: Posted on the course page – No grace period and partial points after this due date
  - Any extension/make-up/resubmission request will NOT be accepted

Extra credit – example capture



Submit a PDF document containing the capture!

Class Schedule

- Part 1: Introduction, exploratory analysis & statistics, input/output (Week 1-5)
- Midterm exam 1 (Week 6)
- Part 2: Regression, prediction, classification (Week 7-10)
- Midterm exam 2 (Week 11)
- Part 3: Statistical classification, unsupervised learning (Week 12-14)
- Part 4: Advanced topics – feature selection, projection (Week 15)
- Final exam (Week 16)

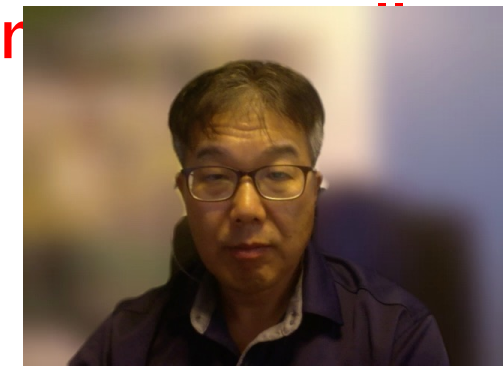
Grading

- Follow absolute scale:
  - A = 90%-100%
  - B = 80%-89%
  - C = 70%-79%
  - D = 60%-69%
  - F = 59% or Below
- Components:

Components	Weight	Remarks
Assignments	30%	One lowest score will be d
Midterm exam	35%	Two exams: the lower scor
Final exam	35%	

Assignments

- Homework should be typed and submitted in a single PDF file (unless otherwise instructed)
  - Handwritten answers will not be accepted and graded
- On-time submission encouraged
  - The deadline for the assignment can be extended with a 15% penalty per day, up to two days (48 hours)
  - Any submission later than 48 hours after the deadline will not be accepted and graded.
- *N* assignments and the lowest one will be discarded from final grade calculation
- No make-up/extension/resubmission r
  be accepted and responded



Exams

- Three exams (online): 2 midterm and 1 final exam
- Tentative schedule is available on the course page
- Rescheduling of exams:
  - In case of time conflicts (e.g., with your work schedule), you can make a rescheduling request and take the exam one day earlier
  - **The rescheduled date cannot be anytime later than the regular exam date**
  - The rescheduling request should be received by the instructor by Friday (before the exam week) with a valid document
  - Any personal reason (e.g., family travel) will not be considered for rescheduling

Exam policy and format

- **Make-up policy**: Makeup exams will not be given for any reason. However, students will have two midterm exams, and the higher score will only be considered for the final grade calculation. If a student is unable to take the final exam for any emergency reason, the student may receive an 'X' (incomplete)
- **Exam format**: Due to increasing cheating incident reporting, this course employs the following format for online testing: (1) You can see one question per page, (2) you cannot proceed to the next question unless you answer the current question, and (3) it is not allowed to go back to the previous question. This should be strictly applied to minimize any possibility of academic dishonesty/misconduct

Rebuttal Window

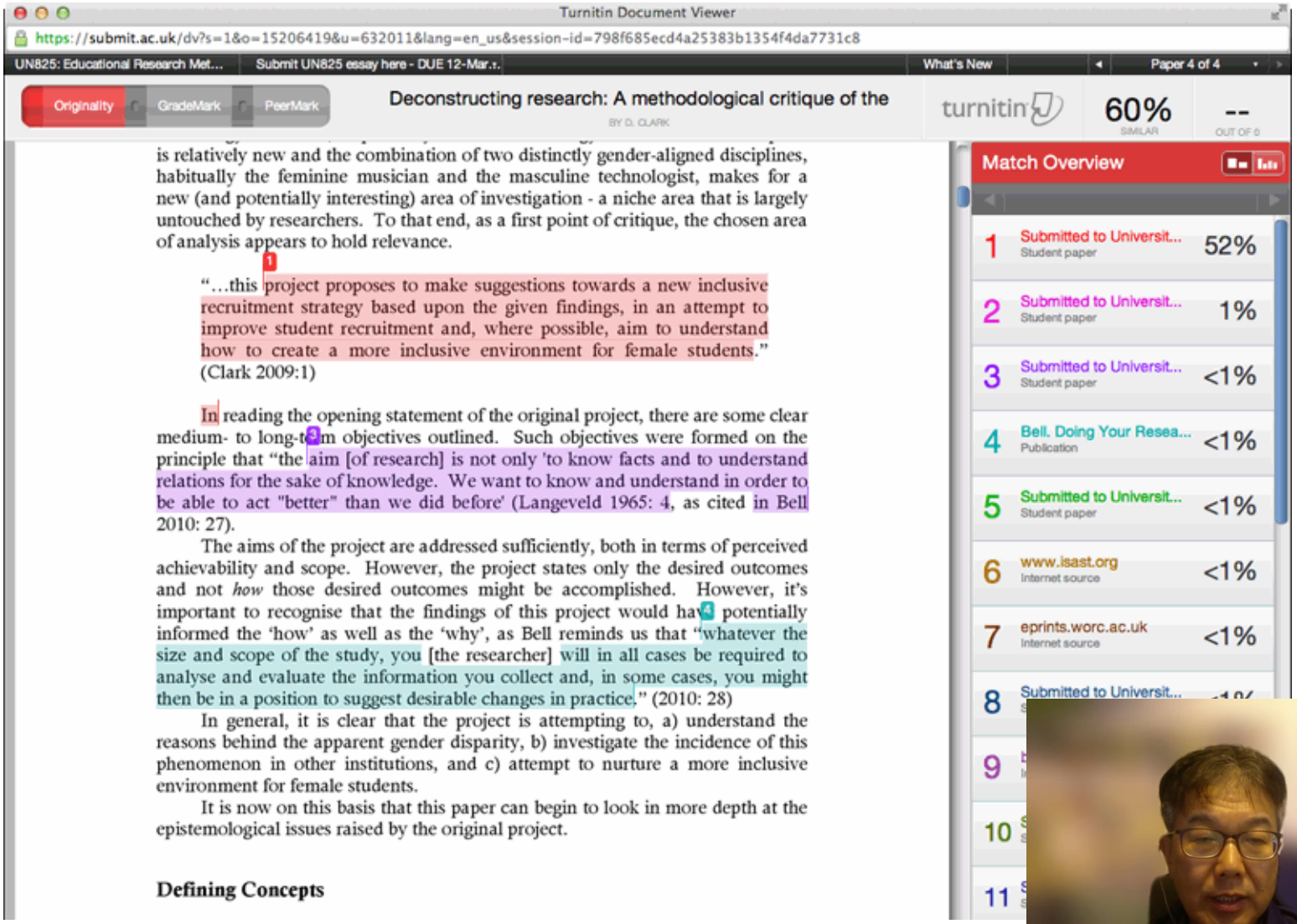
- **REBUTTAL WINDOW**: For any piece of grading, the length of rebuttal window is limited to two weeks since the day when the grade is being posted. You can contact the instructor through email if you want to make a rebuttal request (but within the rebuttal window).

Academic Integrity

- Anyone attempting cheating will receive a zero on the work
- Subsequent cheating will result in a failing grade
  - May be reported to the university and the case filed officially
- Be aware that we have a high standard for academic integrity with zero-tolerance rule

- Use software tools such as turnitin and iThenticate

Plagiarism/Originality Check



For further details…

- Read the syllabus thoroughly!
- Course page for announcements, course materials, and grade posting
- IMPORTANT: Syllabus can be changed over time!
  - Will be announced for every change
  - Course page will keep the most recent copy of the syllabus

First week action items

- Read syllabus thoroughly
- Weka: install and run to earn extra credit!
- Watch "Getting Started with Weka - Machine Learning Recipes #10"
  - https://www.youtube.com/watch?v=TF1yh5PKaqI