

CS616 Data Mining

Spring 2004

Syllabus

Text: Data Mining by Dunham (text is in Rivier Bookstore)

Professor: **Dr. Richard J. Greene**

Office Hours: By Appointment

WEBPAGE: See URL on Powerpoint Slides

Grading

Homework/programs 30%

Midterm 30%

Final 40%

Course Administration

I expect you:

1. To struggle with unfamiliar concepts and put in the effort needed to learn something new. I assume only a high school preparation in math and will teach you all the advanced math we need.
2. Ask questions when you are curious or perplexed. It actually helps me see where I am failing to explain something. Don't lead me to think you understand something only to discover much later that you have no idea about what I am trying to teach.
3. To learn as much as you wish. There's plenty of extra credit available if you want it.
4. I am a firm believer in hands on experiences. So - in this course you will implement and use the algorithms and techniques we talk about to analyze real data. Then - when you do use what you learn in real life, you will be confident and accomplished already. The flip side of learning-by-doing is that it can be frustrating and overwhelming at times. Because the data is real, things may not be clearcut and obvious all the time as they are in textbooks. Bear with me through this and I believe you won't regret it.

| Week | Topic | Chapter in text |
|-------|--|---|
| ----- | ----- | ----- |
| 1 | Intro/Induction ID3 | 1, 4.4 |
| 2 | Induction over nonnumeric data | 4.4 |
| 3 | Induction/Supervised learning | 4.1-4.3, 4.5-4.6, 5 |
| 4 | Induction/Supervised learning | 4.1-4.3, 4.5-4.6, 5 |
| 5 | Multivariate Statistics | 3.2,9, handouts |
| 6 | Midterm | 5 |
| 7 | Clustering | 5 |
| 8 | Genetic algorithms | - |
| 9 | Methodlogy/Preprocessing/Feature Selection | 6 |
| 10 | Visualization (takehome) | handouts |
| 11 | Special topic/technique | TBD according to class desires until on of term possibilities |

include Spatial Data Mining, Web Mining, Temporal Mining, Scientific Data Mining, etc.