Assignment 5 Example Answers

Deliverables:

1. List your performance from 5. Turn in your ARFF file.
   Accuracy = .753, Kappa = .507

2. List your 5 rules here *(these are examples – yours will be different)*
   - Rule 1: **POSITIVE ADJECTIVE** =
     OR {attractive, sweet, fabulous, excellent, successful, thought-provoking}
   - Rule 2: **POSITIVE VERB** =
     OR {love, capture, captivate, think about, talk about, ponder}
   - Rule 3: **DESCRIPTIVE NOUN** = OR {chemistry, charm,}
   - Rule 4: **RELIGIOUS NOUN** = NOT {God}
   - Rule 5: **NEGATIVE ADJ** = NOT {boring, dull, terrible, annoying}

3. Fill in the following table.
   Indicate which example reviews "trigger" each of your proposed rule-based features:

	1. Positive Adjective	2. Positive Verb	3. Descriptive Noun	4. Religious Noun	5. Negative Adjective
Positive 1	TRUE	TRUE	TRUE	TRUE	TRUE
Positive 2		TRUE	TRUE		TRUE
Positive 3	TRUE	TRUE		TRUE	TRUE
Positive 4			TRUE	TRUE	TRUE
Positive 5	TRUE			TRUE	TRUE
Negative 1				TRUE	
Negative 2					
Negative 3				TRUE	
Negative 4					
Negative 5				TRUE	TRUE

4. Indicate which feature you think worked best and what you think made that feature work better than the others.
   Feature 5 worked best – it has the best correlation with the class value.
   (there are no missed positive reviews, and only one negative review, that this rule "hits" on).

   Rule 4 is very noisy, and occurs more or less equally within each class value. Rules 1-3 slightly under-generate, in that they miss several positive reviews.

Learning Objectives:

1. Gain some familiarity using LightSide.
2. Gain some experience thinking about implications of feature space design for text classification.
3. Formulate rules or patterns to distinguish positive and negative movie reviews composed of simple text features, AND, OR, and NOT.
4. Grapple with trade offs between over-generation and under-generation.

Description:

Before we watch a movie, we read reviews about it!!. Typically movie reviews also indicate whether the movie is good or bad (with thumbs up/down symbols) or provide a rating on a scale of 0-5 or 0-10.

Suppose if we want to apply machine learning algorithm to come up with a decision whether the reviews of a movie are positive or negative, then such a machine learning algorithm would take "review comments / text" as input and predict whether the review is negative / positive about the movie.

In this assignment, we are given a bunch of reviews on several movies classified as positive and negative. The goal is to build a classifier that can correctly assign either a positive or negative tag to the movie review texts.

To start you thinking, we have given you a set of 10 movie reviews that contain expressions of opinions about the recent movie The Adjustment Bureau.

You are required to examine these reviews and then come up with some rules that would allow you to distinguish positive and negative reviews. You will do so using the following rule language:

> Terminal symbols include unigrams (i.e., single word features) and bigrams (pairs of words that are next to each other in text).
> Operators include AND, OR, and NOT.

Step-by-Step Guide:

1. Read through the provided positive and negative movie reviews.

2. Notice patterns of words that indicate positive or negative movie reviews.
3. Use AND, OR, and NOT operators to form 5 rules that will be your distinguishing features.

4. For each review, indicate the value that you would get for each of your 5 defined features. Note for each feature whether it seems more indicative of positive or negative reviews. Which feature worked best? What do you think made this feature work better than the others?

5. Run LightSide. Load in the MovieReviews.csv folder that is found in LightSide's data folder. Run a cross-validation experiment with Naïve Bayes. What was your performance? Save the feature space as a .arff file.

Examples of Positive Movie Reviews

Positive Review 1

Can we plan our destiny, or is our destiny predetermined by forces outside our will? This is the main point of this science-fiction thriller, where the romance between David and Elise captured me so much as to make my attention concentrate more on the extremely attractive couple Damon-Blunt than on that central issue. Their chemistry works out effectively, never seen such a lovable Damon before, with such a charming smile, Emily Blunt proves mysterious and attractive as usual, so when they lips first meet, something explosive is ignited. The central issue is of course not original, but interesting in the intriguing and breathtaking way it is represented, without moving too far to any conclusion. Certainly free will is eagerly supported, certainly the movie sides with the need to dare and not to be afraid to follow what you think important for your life, against all more or less reasonable obstacles, even against your destiny, mainly when the love of your life is involved. The story proceeds with a quick, intriguing pace, the science-fiction and the romance, the supernatural and the realistic blend perfectly, on the stage of a wonderful and an ever-enchanting New York, keeping the viewer always captivated and entertained, and making the movie really enjoyable from the beginning till the end.

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Positive Review 2

My husband and I just watched the movie this evening and we both loved it. We had dinner after the movie, then an hour drive home and it was the topic of conversation throughout dinner and our drive home. Matt Damon and Emily Blunt showed real chemistry between them. This was Matt Damon's first romantic role and he was really good. His crooked smile gives him charm. Although I can see why some religious groups may have some issues with the movie as it gives a unique twist to the subject of angels and God (although it never says God - refers to "the Chairman"). But it does give you a lot to think about and to talk about. I know that I will be constantly reminded of this movie for a long time to come such as when certain things happen or when I see men with fedora hats on!

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Positive Review 3

Sci-fi and fantasy is my favorite genre, because they can do so many more things with them. It's definitely not the same old, same old. However, I wish 80% of sci-fi and fantasy movies were NOT made, because they do them so badly, ruining most viewers for the super natural. If you're not going to do it well, don't do it at all, Hollywood. I wish they'd make hundreds more like this! It would make people

who hate sci-fi realize that they only hate BAD sci-fi.

Adjustment bureau had everything. Sci-fi, mystery, drama, romance and twists and turns. It kept you enthralled from the moment you sat down, regardless if you are a sci-fi fan or not.

It was beautifully done, kept you captivated, and made you think a bit. You can see the decisions Matt Damon's character has to make when he realizes what his choices will lead to.

It was very thought-provoking. It makes you ponder life, and where it would have taken us if our choices would have differed just a little bit. The actors did a great job, you could identify with them, and even like them. I've never been a huge Matt Damon fan, but he did such a great job as a politician, I'd vote for him. Definitely a like-able character, along with the rest. In short, my husband and I LOVED this film, we talked about it afterwards more than most movies as it was thought-provoking and poignant. Finally, a fabulous sci-fi. Keep them coming like this please, Hollywood!

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Positive Review 4

I saw HEREAFTER...and been quite a bit apprehensive because of it, fearing for another disaster. But I was wrong...so wrong and I'm more than glad to admit this! The movie tells an interesting story and more so it's entertaining and sweet. There is true chemistry portrayed on screen which makes an unbelievable story of love and destiny, believable. All in all this film is done so well; it makes you want to believe it's all possible. (The hat thing was a great twist, I thought.) But it's not all mushy gooey love and kisses that makes cherubs puke. There is actually quite a bit of movement and a few ounces of mystery all mixed in the Adjustment bureau

Religion, though never mentioned in this production does play a role and so it is only natural that both sides of the religious spectrum will have strong opinions about it. All I can say is: ITS A MOVIE, MEANT TO BE ENTERTAINING! Sometimes we dig too deep to question things that better be left unasked. The plot has a few holes which could have easily been taken care of with an easy explanation. I, for my part however usually don't go see a movie and start analyzing the plot from start to finish... I more so decide once the film is over whether or not I was entertained by it and whether or not I'd watch it again. Based on that I had to rate this movie highly and so I can't help but proclaim that in my opinion I did enjoy the journey the Adjustment Bureau has taken me on. All in all it is a good movie for date-night or a girl's night out.

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Positive Review 5

David Norris (Matt Damon), an up and coming politician, meets dancer Elise (Emily Blunt), and they fall for each other. The path of true love never runs smooth, however, and in this case it is because of a bunch of mysterious hat-wearing bureaucrats who devote considerable resources to ensuring that events move along according to a predetermined Plan (which, it transpires, doesn't include David and Elise getting together).

There are three major elements to this movie. One is the romance between the two main characters. The second is the science fiction notion of The Adjustment Bureau itself, continually making minor adjustments to the lives of ordinary people to make sure that The Plan proceeds uninterrupted, and occasionally messing up big time. And the third is an interesting subtext about free will vs predetermination.

All three of these elements interweave, and work very well. Forget the Bourne comparisons. Although Damon is in it, and there is a chase (which makes excellent use of the sc-fi concept, special effects, and New York locations, any Bourne comparison is massively wide of the mark. The science fiction side of things is well handled, but never threatens to overwhelm the heart of the movie, which is the touching and believable relationship between David and Elise - yes, I would have fallen for her straight away, too! These likable characters are very well written and performed, and are a big part of what makes this film very successful.

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Examples of Negative Movie Reviews

Negative Review 1

Those who have seen the trailer will think that this is a cool, exciting action film about men who control the destinies of others and the man who says, "I will not stand for this!" but sadly that is not the story of the film. The concept is great and there are moments where I thought the film was going to get better because the story sounds interesting.

I'll start with the good. As I have mentioned before the film sounds interesting and as these mysterious men enter the film, you are interested to see what they can do. Anthony Mackie and John Slattery were well cast and Matt Damon's performance while not perfect (because of the script) is good and keeps the film together.

Apart from the above I can't think of anything else because the script is dull and the characters feel one-dimensional. Emily Blunt has little to do in the film and Terrence Stamp is completely misused. We hear how his character is cold and will do anything to get the job done but the film never shows this.

What could have saved the film would have been some kind of emotional pull if we felt that the two leads were meant to be together because that would have kept the film interesting. Instead there is little reason to care what happens by the end.

Themes including free will and pre-destination are mentioned and are interesting when they are brought up but the script doesn't do anything with it. Without spoiling anything, Matt Damon does make a discovery halfway through the film and it could have been a major plot point but the way film deals with it feels unnatural and out-of-character.

The film also lacks a sense of energy but maybe that is due to my initial expectations as the film is completely miss-marketed as an action thriller. However the film could have played up the villains in the film (if you can call them that) because you learn what they have done and what they are capable of doing.

In the hands of another director, this would have been an enjoyable film to watch. The idea is there but something went wrong along the way and this is the result. This isn't essential viewing but if you are interested, rent it.

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Negative Review 2

I watched this film with my family and we all agreed at the end, that we should have left when we first thought of it only 15 minutes into it.

This is, by far, one of the worst movies I have ever seen. All of the characters are shallow, cliché and the acting is near awful. The plot is terrible. This is a really bad romantic drama, which premise is off the charts of ridicule. It is, seriously, hard for me to describe the worst parts, as there are endless amounts.

What I've learned from this movie is: - Don't run for president if you want love - God is a prick and hates love - God is not a prick, he/she just make crappy plans which need fixing and remodeling all time - God is maybe a prick, but is definitely incompetent - Humans easily outsmart God and a great bunch of angels - Don't do what God wants you to do, unless you really want to and then God is alright with it - Everything is a test. God just loves to play around and bruise your ankles, if necessary to test your love; he/she will even make a car crash happen and bruise innocent people just to test your love. Or maybe is it not god who did that, maybe it was the incompetent angels. Well, then you can conclude that god has some serious administration issues and a 'bureau' running wild.

Basically this is one terrible movie. It is a cliché 'romantic drama' which tells you to follow your instinct on love no matter what. If you do so, the woman of your life will automatically love you only after being

with you 4 times over a period of 4 years. She will dump her fiancée just for you, because you made her laugh a few times and told her 'deep' stories about your dead father, who was a great man (or so we were told, as he is not introduced nor 'treated' in the movie at all, only spoken about).

This is religious propaganda, a terrible movie with a terrible plot, which wasted millions of dollars on something which should have never been produced.

I advice you to watch this movie, as it is a textbook example of how not to produce a movie and to laugh at religious clichés. It is not boring... Its just really bad.

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Negative Review 3

I saw this at a preview screening. The premise of mysterious strangers controlling our destiny comes from the eccentric imagination of Phillip K. Dick; everything else in the movie is cookie cutter Hollywood fluff. None of the characters are remotely believable either in their everyday lives or in the nonchalant reactions to learning mind bending secrets about themselves and human destiny. What could have been an entertaining and creepy paranoid fantasy instead becomes a by the numbers sermon on the power of "true love" (which seems to refer to the infatuation you experience after spending a few hours engaging in cute banter and rolling in the hay with a virtual stranger). Has a number of unintentional laughs, not the least of which involves a character recounting a skewed history of the human race that ignores everything outside of Western Europe and America. Beyond all the silliness and the immaturity of the script, however, what really surprised me was how lazy it all felt. The performances were lackluster, the tense scenes were boring, the love story was passionless, the fantasy elements pedestrian. Towards the end I thought we might be at least being heading toward something really outrageous, but even that turned out to be a false hope.

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Negative Review 4

There are many movies with impossible plots that are entertaining because you are carried along by the story. You don't notice the holes in the plot until the next day. In this case, the plot is not merely preposterous, it is transparent. As such, it is impossible to enjoy the movie because you are sitting in the theatre analyzing its faults. Let's begin with the idea that Matt Damon looks for his true love for 3 years after their chance meeting. O.K., so I didn't realize until the next day that his true love had crashed a wedding and that she was last seen being chased by security people much faster than she was. Matt could simply have checked back at the hotel to learn her identity. But even while I was watching the movie it was obvious that he plays a well-known public figure. So why didn't she just call him up? Once

you realize this is all she would have to do, the premise of the movie collapses. In addition, as other reviewers have noted, the human hero is outwitting God. How believable is that? The angels suggest that God just doesn't have the resources to monitor everybody, so He focuses on "important" people. That's simply annoying. This is a God who (rather than knowing when any sparrow falls) apparently only knows when a condor falls. And then you have the angel who violates God's orders to help our hero find his true love by loaning him his cheesy hat. I could only think of the Red Hat Ladies. Where do they end up when they go though a door? I've never read (or heard of) the scifi novel from the 50's that this is based on, but I recognized the genre when it was postulated that all the large events of Western Civilization could be explained by times that God intervened and times when God took a hands-off approach: God was on-duty up to the Fall of Rome, but took the day off during the Dark Ages, etc. Other reviewers quibble that this ignores other cultures, but 1950's scifi was into sweeping concepts like this. Frankly, it is kinda neat, and as a teenager I would have been intrigued. But the problem here is that Hollywood has taken what was probably a pretty good idea from the 50's and trashed it. I'd bet that the author made a much more credible case for his premise and tied up the loose ends in a way that was internally consistent. Not so here. I give three stars because of the scenes of New York and because smoking was not prominently featured. Even Big Tobacco passed on this turkey.

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Negative Review 5

Think a scripted blending of "Charade" (1963) meets "The Matrix" (1999), and you have an idea of the plot that is the basis for "The Adjustment Bureau." (2011) All three films revolve around romance, suspense and a heightened sense of place. In "The Adjustment Bureau" New York City is almost a third character, and spotting cameo appearances by East coast media elites (past and present) is a side game. Humor is also an element of this story, although it sometimes undercuts the power of the suspense and romance that I imagine is the film's intended tone.

There are engaging performances to recommend the film, such as those by stars Matt Damon and Emily Blunt; as well as supporting actors Anthony Mackie, John Slattery, and the ever dangerously sexy Terrence Stamp.

All the witty repartee between characters, the striking views of New York City, and the driving pulse of the soundtrack make "The Adjustment Bureau" an entertaining film, but not so well pulled together that it demands great thought and consideration after the screening is over.

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