# **CSC594 Content Theory of [Emotion]**

## **Gianna Rasmussen**

[Save your own copy of this this doc in your docs.google.com / drive.google.com account. **Share this document** with the class Google Group with *comments enabled*.]

Note: All linked documents should be **shared for comment access with the class Google Group.** Have another class member check your linked shares for access, and you check theirs.

**Website:** [Not required. Put the link here if you have one associated with this project.]

Always ask yourself this question: is my content theory precise enough to be *computable*?

## **The Content Theory**

### **Description of the domain**

Give us a one-paragraph overview.

**Sample:** Humans can be seen to have a collection of (1) emotional responses to events that take place relative to their goals, (2) responsible actions that they and others perform relative to the principles they believe in, and (3) objects seen as appealing or not. These (a) may be adaptive for survival of the species (b) are ubiquitous throughout human societies (c) share many universal qualities that cross cultural boundaries. No model of human intelligence would be complete without a model of emotions generated by (1), (2) and (3) above. In this work I create a content theory of emotion based on these basic principles.

WRITE YOUR OWN OVERVIEW RELATIVE TO THE AREA IN WHICH YOU CHOOSE TO WORK.

### **Why we care about this domain**

You have 90 seconds. Why are we spending time and resources on this project? GO!

How would you respond to this question? Write your answer here.

### **Defined terms within this content theory**

Give us a link to the **Google Doc containing a list of your defined terms** in your own domain area. Your list should have 20 to 50 or more definitions relative to your work.

Example start on such a list:

1. **Emotion** — A discrete state in an agent's working memory momentarily modeling the natural, instinctive state of mind humans derive from an immediate appraisal of their circumstances, mood, and relationships with others.
2. **Agents**—software entities that... (a) are capable of having emotions, (b) have relationships with other agents, (c) may be responsible actors wrt. blameworthy and praiseworthy actions.
3. **Events** —states in the working memory of the system that trigger an appraisal by one or more agents
4. [...

### **Objects in the domain**

Give us a link to the **Google Doc containing a list of your objects**  in your own domain area.

Example start of a list of objects:

1. **Relationships**—between two agents, affecting how the agents respond to the emotions of others
2. **Utterances**—natural language patterns that can be distilled down to system-meaningful patterns.
3. **Simulation Events (sim-events)**—time-stamped data structures that are popped from a priority-queue to model the flow of time through the world of the agents, albeit in a discrete series of changes to working memory.
4. [...]

### **Relationships in the domain**

1. **Friendship** —unidrectional. When an agent's friend is happy the agent will be happy for them; when sad, they will be sorry for them.
2. **Adversarial** —unidirectional. When an agents adversary is happy the agent will be distressed about it; when sad, they will be happy about it.
3. **Cognitive Unit** —The agent will have the same emotions as another agent.
4. [...]

### **Categories in the domain**

Depending on the extent of your work on categories, and category membership, if necessary, give us a link to the **Google Doc containing your categories breakdown.** Otherwise, give us the basic categories (and sub-categories) you’ve defined, here.

1. Events that are of concern to the Intelligent Agent
2. Events not relevant to the Intelligent Agent
3. [Taxonomy of...] Actions of other agents suggesting presence of an emotion
4. [...]

### **Scope of the domain**

[What are the "edges" of the domain? How do we determine what is in the domain of this content theory, and what isn't?]

[What might we expect to be in this content theory that isn't. Why?]

Examples:

1. This (emotion theory) only deals with discrete instances of emotion. There is no theoretical model of emotion decay over time...
2. There is no representation of the body processes of emotion....

### **Other working documents**

[There may be many other documents, including code examples, that go into the definition of your content theory.]

1. [link] Document one description
2. [link] Document two description
3. [link] Document three description

## ***Basic research* arguments**

[Why this is a valid area of study to explore, sometimes without prior goals]

## **Blue-sky applications**

[Note: Be VERY careful not to propose hypothetical applications of your content theory that are unlikely to ever be achieved because of computational, complexity or other constraints. Blue-sky science is good. Fantasy is not (here).]

1. Hypothetical application one description
2. Hypothetical application two description
3. Hypothetical application three description

## **Blue-sky annotated notes on how AI technologies might apply to an implementation of your content theory**

[How might existing AI technologies be best used to implement your content theory, assuming extensive programming resources?]

Give us a link to the **Google Doc containing your notes** on how other AI technologies might apply to work in your own domain area. This discussion should contain 1,000 words to 10,000 words or more.

Example:

* Case-based heuristic classification might best be used for appraising the actions of others as derived from emotion states. Humans will use this kind of explanation-based reasoning to reason backwards from a collection of potentially emotion-based expressions along with features present in the situation thought to have triggered the response, to the supposed emotion that caused them. Cases could then contain example antecedents of such emotions that are consistent with (a) the features present in the eliciting situation and (b) the appraisals of the agent that lead to that emotion. [...]

## **Indexed blue-sky ideas files**

Give us a link to the **Google Doc containing your blue-sky *Ideas File***

## **Best computable emotion and personality papers**

Give us a link to the **Google Doc containing your reviews** of emotion and personality papers, and papers in your chosen domain.

Include only good papers. Bonus points for introducing us to good new work! Give links to online text, and full citation: Ranked best to least:

1. Authors
   * Citation
   * Online link to text if available
   * Annotation on why we want to read it.
2. Authors

## **Bibliography**

Link to your Word-compatible XML-formatted Bibliography file

## **Implementation Notes**

* Link to time-stamped short updates on progress with your AI implementation.

## **Socket connection to your running AI server**

If you have a running AI server, give the instructions for how to connect to it here. Downloadable .java client?

## **Suggested readings with annotations**

[Links to your suggested readings with annotation saying why the paper, or website, is of interest.]

## **Video of your running AI code**

[Required on forums as well at the end of class]

## **Planning documents for this project**

[As needed]

## **Collaboration plan**

[For those working together—CLEAR division of *responsibilities* ]

* Editor of Content Theory—name
* Maintainer of the shared docs / web page—name
* Master of the running computer code—name
* Editor of the structured outlines—name
* Critique of others Editor—name
* Presentation manager—name
* Maintainer of shared documents—name

## **Shared Google (or other) documents**

* URL + description
* URL + description
* URL + description

## **Structured Outlines for papers generated by this work (with bibliographies)**

* URL + description
* URL + description
* URL + description

## ***Commented* AI Utility code snippets designed for this content theory**

* URL + description
* URL + description
* URL + description

## **Constructive scholarly critique of other student content theory Google Documents:**

* 2019-03-02 Name URL + description
* 2019-03-07 Name URL + description
* 2019-03-09 Name URL + description