# Computational Narrative Seminar

Syllabus
Rogelio E. Cardona-Rivera, Corrinne Lewis, R. Michael Young
Spring 2018

**Overview**

The Spring 2018 offering of the Computational Narrative Seminar will focus on reading and discussing papers that support computationally modeling, reasoning about, and generating the character dynamics involved in the *Battle of Scarif* as depicted in the movie *Rogue One: A Star Wars Story*.

The Battle of Scarif "was the first major battle fought between the *Alliance to Restore the Republic* and the *Galactic Empire*, marking the beginning of the five-year Galactic Civil War."[1] We will pay special attention to character dynamics involving the adoption, revision, and delegation of character beliefs, desires, and intentions throughout the course of the battle.

**Instructors**

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R. Michael Young
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**Course Website**

TBD.

**Textbooks**

None. All assigned readings will either be made available by the instructors or by the university library.

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[1] http://starwars.wikia.com/wiki/Battle_of_Scarif

**Prerequisites**

Graduate Standing in the School of Computing / Entertainment Arts and Engineering Program, or permission of the instructors.

Note: The focus of the course is interdisciplinary, and we hope to attract students with interest both inside and outside computer science. While the emphasis of this course will be on computational techniques from artificial intelligence, the scope encompasses human-centered theoretical, design, and engineering issues that arise from modeling characters in virtual environments. Thus, the course will benefit from the participation of students with diverse disciplinary traditions.

**Examinations**

None.

**Grading**

Pass / Fail.

**Course Objectives**

1. Introduction to computational modeling of narrative structure.
2. For students with a primary background in computer science: exposure to theories from other disciplines, including: narrative, linguistics, cognitive psychology.
3. For students with a primary background in design, social science, or the arts: exposure to theoretical concerns of representing and reasoning over narratives in artificial intelligence.

**Expected Learning Outcomes**

Upon successful completion of this seminar, a student will be able to:

1. Identify the fundamental issues and debates surrounding the modeling of character dynamics inside story-based virtual environments.
2. Discuss diverse relevant perspectives to how characters adopt, abandon, revise, and delegate beliefs, desires, and intentions inside stories.
3. Understand how character behaviors can be generated computationally, and how they can be algorithmically manipulated in the face of other interacting characters and story-based events.

**Absence Policy**

• Students are expected to be present in the seminar. The instructors will call roll 3 times during the semester.  You may have an unexcused absence for one of those roll

calls without penalty. Further unexcused absences may result in a failing grade due to the compressed nature of the seminar schedule.

- All holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion.
- Absences pre-approved by instructors will be honored; documented medical excuses or other excused absences will not adversely affect grades.
- Conference travel or other scholarly duties discussed well in advance of a missed session may be excused at the discretion of the instructors.

**Cheating Policy**

- Every student is responsible for their own work.
- Cite references and other classmates if help is received from either.
- Follow the Student Code of Academic Integrity.

**Students With Disabilities**

The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you need accommodations in a class, reasonable prior notice needs to be given to the instructor and to the Center for Disability Services, 162 Olpin Union, 581-5020 (V/TDD) to make arrangements for accommodations. All written information in a course can be made available in alternative format with prior notification to the Center for Disability Services.

If you anticipate issues related to the format or requirements of this course, please meet with us. We would like us to discuss ways to ensure your full participation in the course.

**Credit**

Students may enroll for one (1) credit.  Although the University lists the course as "variable credit," the two- and three-credit options are not currently available.

**College of Engineering Semester Guidelines**

The College of Engineering Semester Guidelines contain important dates regarding adding, dropping and withdrawing from classes as well as the College Policy regarding repeating courses.  To consult the guidelines, go to: https://www.coe.utah.edu/wp-content/uploads/pdf/faculty/semester_guidelines.pdf

**School of Computing Policies and Guidelines**

The School of Computing Policies and Guidelines represent important information that students taking courses in, or seeking degrees from, the School of Computing, must be

aware of. It is important that you read, understand, and adhere to this information. To consult the policies and guidelines, go to:

https://www.cs.utah.edu/~germain/SoC_Guidelines_Spring_2017

Students are responsible for the information contained therein.

**Schedule**

The schedule is subject to change. The official schedule will be kept on the course webpage, and will be updated periodically to reflect changes as the semester progresses. It is the student's responsibility to check the schedule regularly for changes. The instructor will communicate any changes in deadlines to students in a timely manner via email and/or announcements in class.

Note, it is the student's responsibility to check their official email address at least once daily and to come to class. Failure to do so does not excuse missed deadlines.

Students enrolled in the seminar are expected to read the papers prior to the seminar. Additionally, students are expected to sign up to lead the discussion on one or more seminar meeting.  Leading the discussion means:

1.  Choosing a paper and e-mailing the instructors which paper they have chosen to present before Tuesday, January 16th, 2018 at 11:59pm;

2.  Preparing a presentation (15-20 minutes) that summarizes the paper and its pertinent points;

3.  Familiarizing yourself enough with the paper to be able to answer questions that may come up;

4.  Preparing potential discussion points if the discussion needs prompting.

Finally, each student will prepare an annotation of the *Battle of Scarif* that will serve as the basis for discussion of the computational modeling of the depicted narrative.

| Week | Date | Topics | Presenter |
|------|------|--------|-----------|
| 1 | Monday, Jan. 8th | Overview of Class: Objectives and Outcomes | Instructors |
| 2 | Monday, Jan. 15th | Martin Luther King, Jr. Day (No Class) | |

| 3 | Monday, Jan. 22nd | Burroway, J. (2002). Chapter 2: The Tower and the Net - Story Form, Plot, and Structure, in *Writing Fiction: A Guide to Narrative Craft* (6th Edition). Longman.<br><br>Burroway, J. (2002). Chapter 4: Building Character - Characterization, Part I, in *Writing Fiction: A Guide to Narrative Craft* (6th Edition). Longman.<br><br>Kennedy, K., Shearmur, A., Emanuel, S. (Producer) & Edwards, G. (Director) (2016). *Rogue One: A Star Wars Story* [Motion Picture]. United States: Lucasfilm Ltd.<br><br>Annotation example of *Rogue One: A Star Wars Story*. | TBD |
| 4 | Monday, Jan. 29th | Discussion of *Rogue One: A Star Wars Story* annotation. | Class |
| 5 | Monday, Feb. 5th | Bratman, M. (1987). "Plans and Practical Reasoning" (Chapter 3) in Intentions, Plans, and Practical Reason. Cambridge, MA, USA: Harvard University Press. pp. 29-49. | TBD |
| 6 | Monday, Feb. 12th | Teutenberg, J., & Porteous, J. (2013). "Efficient intent-based narrative generation using multiple planning agents." In *Proceedings of the 12th International Conference on Autonomous Agents and Multi-agent Systems*, pp. 603-610. | TBD |
| 7 | Monday, Feb. 19th | Presidents' Day (No Class) | |
| 8 | Monday, Feb. 26th | Teutenberg, J., & Porteous, J. (2015). "Incorporating global and local knowledge in intentional narrative planning." In *Proceedings of the 14th International Conference on Autonomous Agents and Multi-agent Systems*, pp. 1539-1546. | TBD |
| 9 | Monday, Mar. 5th | Shirvani, A., Ware, S. G., & Farrell, R. (2017). "A possible worlds model of belief for state-space narrative planning." In *Proceedings of the 13th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment*, pp. 101-107. | TBD |

| 10 | Monday, Mar. 12th | Thorne, B. R., & Young, R. M. (2017). "Generating Stories that Include Failed Actions by Modeling False Character Beliefs" In *Proceedings of the 10th Workshop on Intelligent Narrative Technologies at the13th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment*, pp. 244-251. Young, R. M. (2017). "Sketching a Generative Model of Intention Management for Characters In Stories: Adding Intention Management to a Belief-Driven Story Planning Algorithm" In *Proceedings of the 10th Workshop on Intelligent Narrative Technologies at the13th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment*, pp. 281-288. | TBD |
| 11 | Monday, Mar. 19th | Spring Break (No Class) | |
| 12 | Monday, Mar. 26th | Grosz, B. J., & Kraus, S. (1996). Collaborative plans for complex group action. Artificial Intelligence, 86(2), 269-357. | TBD |
| 13 | Monday, Apr. 2nd | (continued) | |
| 14 | Monday, Apr. 9th | Zhou, T. (Producer) (2016). Every Frame a Painting [Web series]. Vancouver, British Columbia, Canada: YouTube. • The Quadrant System https://youtu.be/wsI8UES59TM • The Geometry of a Scene https://youtu.be/jGc-K7giqKM • Left or Right https://youtu.be/X05TDsoSg2Y • Editing Space and Time https://youtu.be/oz49vQwSoTE • The Lateral Tracking Shot https://youtu.be/pdSKot0psNg | TBD |
| 15 | Monday, Apr. 16th | TBD | TBD |
| 16 | Monday, Apr. 23rd | Revisiting *Rogue One: A Star Wars Story* annotation. | Class |

## Deliverables

| Date | Deliverable |
|---|---|
| Tuesday, Jan. 16th at 11:59pm | Paper Selection |
| Monday, Jan. 29th at 11:00am | *Rogue One: A Star Wars Story* annotation. |