CSC 450**, Senior Research**

**Journal Article Discussion**

***Cellular automaton model for evacuation process with obstacles***

**Directions**: Select one person from your group to write up the answers to questions 1 – 3. Your group will be assigned a “mini-presentation” from #4, for which you will present your answer to the class.

**Group Members:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. What is the research problem the paper addresses? What is the significance of the problem (why is it important)?
2. The authors describe a lot of related work. What is the relationship between the current model and the work referred to in [21] mentioned in the first full paragraph on page 632?
3. How might this work be followed up on? What relevant questions could be investigated by modifying the cellular automata model used here?
4. ***Mini-presentations***. Your group will be assigned one of these to complete:
   1. Mini-presentation: Use **Figures 1-2** to describe the cellular automata model.
   2. Mini-presentation: Describe **Figure 6**, including the relationship between evacuation time (*T*), the exit door width (*a*), and the number of occupants (*N*).
   3. Mini-presentation: Describe **Figure 9**, including how well the relationship between T, *a*, and *N* can be approximated by the scaling factor, , defined in Equation (1).
   4. Mini-presentation: Describe **Figure 11** and **Figure 12**. Where are the best exit door positions?
   5. Mini-presentation: Describe **Figure 14** and refer to **Figure 11** to support the author’s claim that “For a double door, the longest evacuation time turns out to occur for a very traditional location of the door.”