

## CSC-450: Finding Abstracts

**Directions:** Find a research article related to the given topic.

Suggested websites:

- <http://scholar.google.com>
- <http://easternct.libguides.com/cis>

On Piazza, post a follow-up with a *link* to the abstract, and the following information:

- **Methods:** the methods the authors used to conduct the research (what did the authors do?)
- **Results:** what is something specific that the authors found when carrying out their methods
- **Significance:** what is the significance of the work? Why is the article's contribution important?

An example for the Cellular automata model is given below:

- **Methods:** the authors develop a cellular automata model of traffic flow. An experiment is conducted by varying the vehicle's turning probability and the light cycle length, and measuring the average velocity of all cars.
- **Results:** The authors find that the average velocity decreases when the light cycle length or turning probability is increased.
- **Significance:** the authors show that the effect of increasing turning probability on a vehicle's average velocity is predicted with a power law. The author's model can be used as a starting point to explore more realistic traffic situations.

### A Cellular Automaton Model for Traffic Flow — Investigating the Effect of Turning

A cellular automaton model is proposed, modeling vehicular traffic flow on a two dimensional lattice in which the vehicles turn at an intersection with a given probability. It is shown that the introduction of turning reduces the long-term average velocity, and can be predicted by a power law depending on the probability of a vehicle turning and the density of cars. The reduction in speed decreases rapidly once the light cycle length surpasses a certain threshold, the value of which can be predicted from the observed power law.

Finner T, Beauregard MA. A Cellular Automaton Model for Traffic Flow—Investigating the Effect of Turning. American Journal of Undergraduate Research. 2014;12(1):3.

Additional example: <http://dl.acm.org/citation.cfm?id=2884855>