

**CMPSC 580**  
**Topics and Research Methods in Computer Science**  
**Spring 2015**

**Assignment 15: Research Paper Review**  
**Due Thursday, 26 February 2015**

### General Information

For Module 3 you will read two research articles and use L<sup>A</sup>T<sub>E</sub>X to write a one-page review of them.

### Overview of the Papers

Both of the papers for this module explain how multi-robot systems can be used to solve practical real-world problems such as perimeter surveillance and landmine detection. Although these papers have direct connections to real-world situations, they present ideas that are firmly grounded in a mathematical foundation. In addition, both papers present thorough empirical studies that evaluate the trade-offs associated with each presented method. Notice, in particular, how both of the chosen papers use different types of graphs to present the experimental results.

### The Assignment

Each of the assigned papers describes typical research in the area of multi-robot systems. After reading both of these papers, you should understand the types of problems that can be solved with multi-robots, better see the big picture of the methodology and mathematics used to describe this type of system, and take in the basics concerning how results are presented in this field.

After you have finished reading the papers, use L<sup>A</sup>T<sub>E</sub>X to write a one-page summary encompassing them both. This does not require full comprehension of the material presented in the papers — try to train your eyes to pick up on the “big picture” without getting lost in the extraneous details of the methodology, implementation of a technique, or the empirical results.

Your summary, devoting about half a page for each paper, should respond to these questions:

- What is the purpose and the background of the research described in the paper? Why is the proposed research important and interesting?
- What does the related literature suggest about the presented research? How does it further justify the motivation behind this research?
- In broad terms, what are the methodologies and techniques described in the paper?
- What do the results of the paper show? What are the implications of the results?
- Using these papers as a start, what are areas of future research that you could pursue?

As you complete your review, please remember the paper review strategy that we discussed in the first module of the course and then practiced during the second module. Please see the course instructor if you have any questions about either these papers or this assignment.