Something about NP-complete problems

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ABSTRACT

This paper discusses new results in NP-complete problems and the use of distributed networks to solve certain partial cases of NP-complete problems.

Categories and Subject Descriptors

H.4 [**Information Systems Applications**]: Miscellaneous; D.2.8 [**Software Engineering**]: Metrics—*complexity measures, performance measures*

General Terms

Delphi theory

Keywords

ACM proceedings, LaTeX, text tagging

1. INTRODUCTION

I will focus on using the approach Blah for solving partial cases of NP-complete problems on distributed networks.

I plan to use the following sources:

- I expect [6] to be one of my main sources, and I'm still looking for another two "core" papers to build on.
- I may use [2] for comparison.
- I'll use [1, 7] and possibly selected chapters of [5] as background.

As mentioned above I need two other "core" papers, and I'm still looking for good examples that I can use to explain the

I was initially considering algorithms on compete graphs as a possible topic, and looked over [8, 3, 4] before I settled on my current topic.

UMM CSci Senior Seminar Conference, December 2013 Morris, MN.

2. REFERENCES

[1] S. Aaronson. Guest column: NP-complete problems and physical reality. *SIGACT News*, 36:30–52, March 2005. *This is a great background resource. It covers the approach Blah that I plan to focus on.*

[2] Y. Brun. Solving NP-complete problems in the tile assembly model. *Theor. Comput. Sci.*, 395:31–46, April 2008. *This is an alternative approach that I am likely to use for comparison of approaches and results. The approach seems slightly less efficient than Blah, expect for cases with a small number of nodes (< 100).*

[3] D. P. Dobkin, S. J. Friedman, and K. J. Supowit. Delaunay graphs are almost as good as complete graphs. In *Foundations of Computer Science, 1987., 28th Annual Symposium on*, pages 20–26. IEEE, 1987. *Won't be using this since my topic isn't complete graphs anymore.*

[4] J. Folkman. Graphs with monochromatic complete subgraphs in every edge coloring. *SIAM Journal on Applied Mathematics*, 18(1):19–24, 1970. *Won't be using this since my topic isn't complete graphs anymore.*

[5] M. R. Garey and D. S. Johnson. *Computers and Intractability: A Guide to the Theory of NP-Completeness*. W. H. Freeman & Co., New York, NY, USA, 1979. *This is an old book, but it is referenced in most papers I have looked at as the primary background source on NP-complete problems. I am very likely to use it.*

[6] M. Oltean and O. Muntean. Solving NP-complete problems with delayed signals: An overview of current research directions. In *Proceedings of the 1st international workshop on Optical SuperComputing*, OSC '08, pages 115–127, Berlin, Heidelberg, 2008. Springer-Verlag. *This paper has the key result that I am interested in presenting.*

[7] Wikipedia. NP-complete — Wikipedia, The Free Encyclopedia, 2013. [Online; accessed 20-September-2013]. *Provides some useful background on NP completeness and an example that I think I may use in my introduction.*

[8] P. M. Winkler. Isometric embedding in products of complete graphs. *Discrete Applied Mathematics*, 7(2):221–225, 1984. *Won't be using this since my topic isn't complete graphs anymore.*