CSC 660: Assignment #1

Due on Monday, March 5, 2018

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Contents

Question #1 **3**
(a) . . . 3
(b) . . . 3

Question #2 **3**
(a) . . . 3
(b) . . . 3

Question #3 **4**

Question #4 **4**
(Conferences) . . . 4
The 2018 Conference on Artificial Life . . . 4
The Genetic and Evolutionary Computation Conference . . . 4
4th International Conference on Artificial Intelligence and Soft Computing . . . 4
The International Conference on Unconventional Computation and Natural Computation . . . 4
19th International Conference on Artificial Intelligence in Education . . . 4
(Journals) . . . 5
Swarm Intelligence . . . 5
AI & SOCIETY . . . 5
International Journal of Artificial Intelligence . . . 5
Evolutionary Computation . . . 5
International Journal of Artificial Intelligence in Education . . . 5

Paper Critique **5**
An Intelligent Career Counseling Bot . . . 5

Question #1

(a)

The state of the problem is the string formed of the following characters: A, B, C and E. Example: Let S be the state. S can be ABBEC. The set of operators is as follows = $\{AC = E, AB = BC, BB = E, Ex = x\}$ (x belongs to A,B,C, and E). At any time, one of these operators can be performed. Example: Given the S, we can use BB=E to perform another state: S' that looks like AEEC. The goal is to obtain a string where each character is E. In other words, the state of the problem is set of E characters only. The cost is the number of occurrence of E in the sting. The higher the number, the farther the solution from the goal. hence, the motivation should be have only E in the string. Example: EEEE is a solution.

(b)

The problem's state is the grid (matrix) itself. The allowed operators are: paint the square under you or move onto adjancent unpainted sqaure. The goal is to paint the whole matrix. The cost can be related to the state of the matrix; whenever we paint the score can be increased by one. The goal is to get the whole grid painted. Hence, the motivation is to increase the cost as much as possible.

Question #2

(a)

The state of the problem can be defined to be the number of missionaries and cannibals on each side and the location of the boat (left or right). Example State: Let S=$\{3, 3, left, 0, 0\}$ be the initial state; 3 missionaries and 3 cannibals on the left side and the boat is sitting on the left side as well. The set of operators is: take one cannibal to the opposite side, or take two cannibals to the opposite side, or take one cannibal and one missionary to the opposite side, or take two missionaries to the opposite side, or take one cannibal and one missionary to the opposite side. One move can lead for example to the following example: S=$\{3, 2, left, 0, 1\}$ (moving one cannibal to the right). The goal is to transport them all from one side to the opposite without leaving a group of missionaries in one side out-numbered by the cannibals in that place. Let the cost of having more cannibals than missionaries in the same place be equal to -10. Let the cost of having more missionaries than cannibals be equal to +10. Let 0 be the cost of having equal numbers. The goal is to maximize the cost, hence making sure there are no cannibals more than missionaries in one place. Hence: S=$\{0, 0, right, 3, 3\}$ is a goal state. The complete state space (size = 15) is as follows:

State=$\{3, 3, left, 0, 0\}$, State=$\{0, 0, right, 3, 3\}$
State=$\{3, 2, left, 0, 1\}$, State=$\{3, 2, right, 0, 1\}$
State=$\{3, 1, left, 0, 2\}$, State=$\{3, 1, right, 0, 2\}$
State=$\{2, 2, left, 1, 1\}$, State=$\{2, 2, right, 1, 1\}$
State=$\{1, 1, left, 2, 2\}$, State=$\{1, 1, right, 2, 2\}$
State=$\{0, 3, left, 3, 0\}$, State=$\{0, 1, right, 3, 2\}$
State=$\{0, 2, left, 3, 1\}$, State=$\{0, 2, left, 3, 1\}$
State=$\{3, 0, right, 0, 3\}$

(b)

The source code is attached.

Question #3

The source code is attached.

Question #4

(Conferences)

The 2018 Conference on Artificial Life

(a) URL: http://2018.alife.org/
(b) Previous Meeting: Lyon, France. Mon, 4 Sep 2017 to Fri, 8 Sep 2017
(c) Next Meeting: Tokyo, Japan. Sun, 22 Jul 2018 to Sat, 28 Jul 2018
(d) Proceedings: http://cognet.mit.edu/journal/ecal2017
(e) Acceptance Rate: 66.44% (101 out of 152)

The Genetic and Evolutionary Computation Conference

(a) URL: http://gecco-2018.sigevo.org/index.html/tiki-index.php?page=HomePage
(b) Previous Meeting: Berlin, Germany. July 15th-19th 2017
(c) Next Meeting: Kyoto, Japan. July 15th-19th 2018
(d) Proceedings: https://dl.acm.org/citation.cfm?id=3071178&picked=formats&preflayout=tabs
(e) Acceptance Rate: 38% (101 out of 152)

4th International Conference on Artificial Intelligence and Soft Computing

(a) URL: http://csit2018.org/Ais/index.html
(b) Previous Meeting: Vienna, Austria. November 25th-26th 2017
(c) Next Meeting: Copenhagen, Denmark. April 28-29, 2018
(d) Proceedings: http://airccj.org/csecfp/library/index.php
(e) Acceptance Rate: N/A

The International Conference on Unconventional Computation and Natural Computation

(a) URL: https://ucnc2018.lacl.fr/
(b) Previous Meeting: University of Arkansas. June 5-9, 2017
(c) Next Meeting: Fontainebleau, France. June 25-29, 2018
(d) Proceedings: https://link.springer.com/book/10.1007/978-3-319-58187-3
(e) Acceptance Rate: 50%

19th International Conference on Artificial Intelligence in Education

(a) URL: https://aied2018.utscic.edu.au/
(b) Previous Meeting: Wuhan, China. June 26th-30th 2017
(c) Next Meeting: London, UK. June 27-30, 2018
(d) Proceedings: http://www.springer.com/gp/book/9783319614243
(e) Acceptance Rate: N/A

Question #4 continued on next page...

(Journals)

Swarm Intelligence

(a) URL: http://www.springer.com/computer/ai/journal/11721
(b) Publisher: Springer
(c) Editor: Marco Dorigo
(d) Turnaround Time: 34 days

AI & SOCIETY

(a) URL: http://www.springer.com/computer/ai/journal/146 (b) Publisher: Springer
(c) Editor: Karamjit S. Gill
(d) Turnaround Time: 15 days

International Journal of Artificial Intelligence

(a) URL: http://www.ceser.in/ceserp/index.php/ijai
(b) Publisher: CESER PUBLICATIONS
(c) Editor: Radu-Emil Precup & Tanuja Srivastava
(d) Turnaround Time: 60 days

Evolutionary Computation

(a) URL: http://www.mitpressjournals.org/loi/evco
(b) Publisher: MIT Press
(c) Editor: Emma Hart
(d) Turnaround Time: 3 months maximum

International Journal of Artificial Intelligence in Education

(a) URL: http://www.springer.com/computer/ai/journal/40593
(b) Publisher: Springer
(c) Editor: Kay; V. Aleven
(d) Turnaround Time: 50 days

Paper Critique

An Intelligent Career Counseling Bot

Authors: Archana Parab, Siddhesh palkar, Satish Maurya, Sonal Balpande
Journal: International Research Journal of Engineering and Technology (IRJET)
Impact Factor: 5.181
Volume: 04
Issue: 03 — Mar -2017

Summary: The authors proposed an intelligent chatbot that helps students choose their career. The proposed solution is based on Natural Language Processing and Knowledge Based. Students can chat with the bot and get responses on questions like "Which career should I choose" without following any pattern or a specific format.

Structure: The article is composed of the following sections: Abstract, Introduction, Literature Survey, Proposed System, Methodology, Conclusion and Acknowledgment. As a first impression, one main section is missing: Experiments & Results. The remaining part are well structured and defined (the content will be discussed in the paragraph below).

Content: Overall, the content is weak and the English used is bad. Sentences are long and the authors never used commas to separate ideas or sentences. Also, the references are incomplete (they used only 6 references!) and they used Wikipedia to support their sayings which make the article not reliable. In addition, they used blurred and very unprofessional figures (one of them is made using Paint or similar products). Although the topic is very interesting and booming in the filed, the authors made it boring with repetitive sentences and ideas. The literature survey does not include references to previous work; the authors just stated in general whats done and whats not done. Moreover, they supported the paragraph related to the Natural Language Processing by citing Wikipedia. This shows that the author didn't put the effort to read articles about NLP. The algorithm was described using bullet points instead of showing the appropriate pseudo code with a small description and analysis of the complexity of the algorithm (time and/or memory). In the last page of the article, the authors cited a figure by the wrong reference (fig 4.1 instead of Fig 2.) which makes reading the article not pleasant. Even more, the authors didn't include the section of experiments and analysis leaving the readers with several questions and doubts: How well did the chatbot perform ? Is it reliable ? etc. Finally, the conclusion is missing the opening to other research. They mentioned tehir furture plans inside the Proposed System section.

Conclusion:
As a reader, I was disappointed from the article because I am interested in this field and I was looking forward to see how these authors implemented the proposed chatbots. I ended up wasting my time on an incomplete work that is missing a very main section "Experiments and Results" with a boring content written in a bad English. If I were the editor in this journal, I would have rejected this paper.