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Article Critique

Name: Ronnie V. Edec

Course Title:

Instructor:

Date:

Introduction

This is a critique of the study “Intelligent Autonomous Pollination for Future Farming - A Micro Air Vehicle Conceptual Framework with Artificial Intelligence and Human-in-the-Loop” by Yi Chen and Yun Li from e Dongguan University of Technology under research grants “Industry 4.0 Smart Design and Innovation Platform” Part Number: KCYKYQD2017014. `

Critique

i. Title

The title is clear and connected to the scope and content of the article

ii. Abstract

The abstract was short but it summarizes all the necessary details of the article

iii. Introduction

Just like the abstract, the authors managed to explain the important details of the study that the reader needs. The authors also put every topic and explain it in the article including the part of the title.

iv. Related Work

I think the authors put all the details needed to reach the readers interest and information they need. The authors also indicated the related fields of their studies.

v. **Experimental Setup and Data Set**

It is good to see that there is a workflow used in the article so that the objective of the study is clear and tell what was the step they did in this study as shown below:

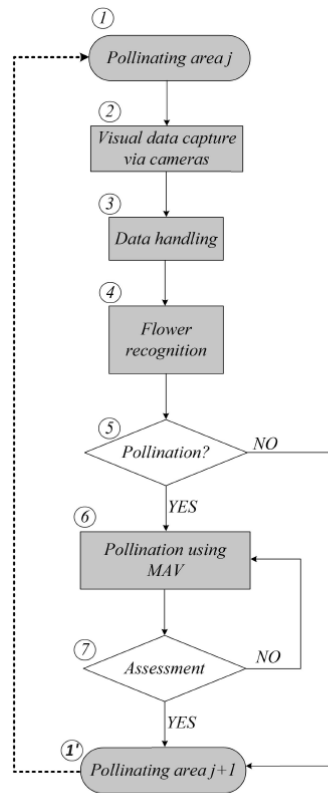
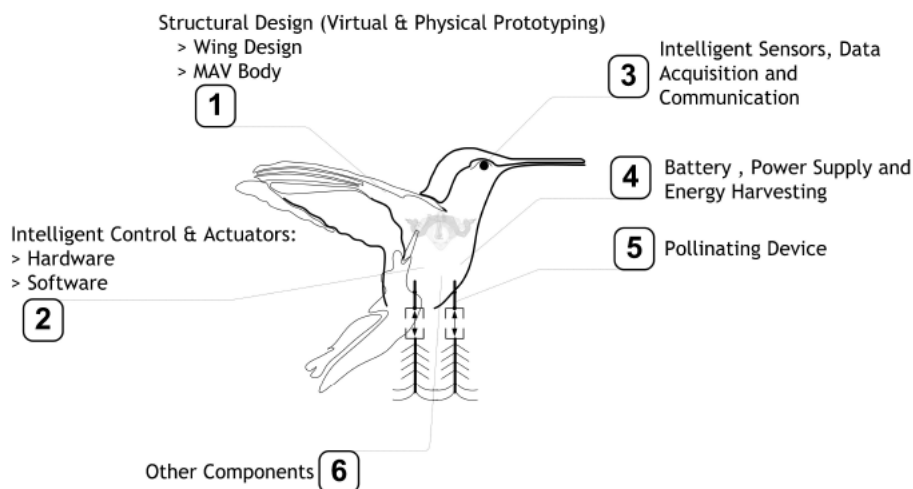


FIGURE 2. Conceptual Workflow of Autonomous Pollination.

They also put the prototype of the pollinating device including its components.



vi. ***Dataset Characteristics***

The data used in the research was well summarized. The authors were able to use some road maps of the study including some formulas that made the study much more effective in terms of data gathering and conclusions.

vii. ***Performance Indicators***

This section mentioned all the criteria that they used to know the efficiency of the study as shown in table 1 and created index in each criteria. They also used algorithm in every criteria of this section to determine its efficiency.

TABLE 1. Criteria for MPr Efficiency Evaluation [18], [29].

No.	Criteria	Index
1	<i>Abundance</i>	C_1
2	<i>Per-visit efficiency</i>	C_2
3	<i>Activity patterns</i>	C_3
4	<i>Visitation rate</i>	C_4
5	<i>Inter specific influence</i>	C_5
6	<i>Direct pollinator efficiency index</i>	C_6
7	<i>Pollen removal efficiency index</i>	C_7
8	<i>Pollinator specificity index</i>	C_8
9	<i>Pollen transportation specificity index</i>	C_9
10	<i>Visitor Activity Index</i>	C_{10}
11	<i>Community Pollination Index</i>	C_{11}

viii. ***Data Presentation (Tables and Figures)***

The data presentation of the tables and figures have a correct title for each and meet the need data of each figure and tables. I also notice that the architecture of a MAV Pollinator in figure 7 has the details needed for the part of the pollinator.

The authors also put details before and after the figure. I think the authors must be consistent where will they put the details in each figure or table.

ix. ***Results and Discussions***

The authors divides the conclusion in different matters, this study concluded the impact in three major parts of the agriculture including the society, economy, and in the environment. I noticed that in this way the study is clear in every aspects of what will happen on the result of this study including being jobless of some farmers in the society.

x. ***Conclusion***

The authors conclude that providing the conceptual integrated framework to spatial recognition and autonomous operations of MPr systems in the era of Industry 4.0, unmanned autonomous systems and self-directed, maneuverable

and interactive MPrs will help us to reach where no one has gone before, an event potentially to space farming. However, they also suggested the future researcher to redesign the architecture of the pollinator including the wings of it to be more efficient and reliable.

I think that the authors has so many recommendations to the next researcher and made me think that this study was not capable in reproduction for the future used of it.

Questions raised in the paper (Explain whether they were answered or not):

1. What will be the architectural design of the pollinator?
It was answered in the part of the article using a figure but the figure or parts of the pollinator hasn't been discuss after the figure.
2. What will be the effect of this project in agriculture?
This question was answered in the conclusion more than I expect because the authors shows 3 different aspects or parts of the agriculture that will be affected.
3. What is the effectiveness of the different algorithms or formula used by the authors?
In this question I think that the algorithm used was supposed to be improved in terms of accuracy and effectiveness and as I read the recommendations of the authors, they want the future researchers to have more test and suggested that develop new Ai algorithms maybe for the new technology in the new generations and I think this also answers my questions raised.

Questions you want to ask the authors/s:

Recommendations:

I recommend that the pollinator architecture was made much smaller so that it cannot make the natural pollinator go away or be afraid of this technology.