Agenda

Anatomy of Research Papers
Types of Research Papers
Citations and References
HW3
Anatomy of a Research Paper

Abstract
Introduction
Related Work
Design and Implementation
Evaluation
Conclusion
Quick Exercise

Look through three research papers
Identify the sections we discussed so far
Share with the class any variations
Slightly different take from other disciplines
Figure 3.1. This diagram shows the headings that must be used for this science paper. Please pay careful attention to the boxes with arrows pointing at each elliptical heading box. These boxes are reminders of the content that belongs with each heading.
How do the research formulation question/answers map to the different parts of a paper?
Types of Papers (mechanical)

Technical Reports
  Project description
  Research paper
Conference
Journal
Magazine

Find out what type your group and community writes.
Which papers are more important?

Conference
Journal
Magazine
Impact factor
CORE ranking

What makes a paper more important than others?
Types of Papers (purpose)

- Research Paper
- Survey Paper
- Tutorial
- Technical Report
  - E.g., NIST, Other Orgs
- White Paper
- Vision Paper
- Challenge Paper
Publications – Looking Ahead

Blogs?
Facebook?
Twitter?
LinkedIn?
GitHub?
YouTube?
arXiv?
.....
Citation and References

Clean! Clean! Clean!
(esp. for websites, links, datasheets)

Consistency! Consistency! Consistency!
Examples


References

Can take a long time to format references.

Is it worth it?
Language independent analysis and classification of discussion threads in Coursera MOOC forums

Room occupancy estimation through wifi, UWB, and light sensors mounted on doorways

Authors:
- Hessam Mohammadmoradi
- Shengrong Yin
- Omerakash Gnawali

Published in:
Proceedings of the 2017 International Conference on Smart Digital Environment
Rabat, Morocco — July 21 - 23, 2017
ACM New York, NY USA ©2017
ISBN: 978-1-4503-5281-9
doi: 10.1145/3128128.3128133

Bibliometrics
- Citation Count: 0
- Downloads (cumulative): 116
- Downloads (12 Months): 86
- Downloads (6 Weeks): 1

Export Formats
- BibTeX
- EndNote
- ACM Ref
Towards Embedded Visible Light Communication Robust to Dynamic Ambient Light

Abstract:
The presence of ambient light is a key challenge for reliable and robust low cost embedded visible light communication system. The photodetector used by these systems can perform poorly when subjected to bright ambient light or fluctuating ambient light. To solve this problem, we present an ambient light cancellation mechanism for low cost embedded LED to photodiode communication systems that uses a digital potentiometer to adaptively nullify the ambient light to provide an always ZERO output no matter what the ambient light intensity is. The proposed technique allows the receiver to correctly receive the light transmitted by the transmitter without any interference from the ambient light. We provide a detailed description of the modulation and demodulation schemes as well as ambient light cancellation mechanism, and their evaluations. The results show our proposed system can provide a reliable and robust visible light communication with extremely low symbol error rate (almost 0) and an acceptable data rate up to 50 bps given an operating distance of 50 centimeters.

Published in: 2016 IEEE Global Communications Conference (GLOBECOM)

Date of Conference: 4-8 Dec. 2016
Date Added to IEEE Xplore: 06 February 2017
ISBN Information:

DOI: 10.1109/GLOCOM.2016.7842344
Publisher: IEEE
Conference Location: Washington, DC, USA

@INPROCEEDINGS{7842344,
  author={S. Yin and O. Gnaoui},
  booktitle={2016 IEEE Global Communications Conference (GLOBECOM)},
  title={Towards Embedded Visible Light Communication Robust to Dynamic Ambient Light},
  year={2016},
  volume={},
  number={},
  pages={1-6},
  keywords={modulation;free-space optical communication;interference suppression;light emitting diodes;optical modulation;photodetectors;photodiodes;dynamic ambient light fluctuation;robust low-cost embedded visible light communication system;reliability;photodetector;photodiode communication system;low-cost embedded LED;digital potentiometer;modulation scheme;demodulation scheme;ambient light cancellation mechanism;distance 50 cm;Receivers;Photodiodes;Robustness;Modulation;Prototypes},
  doi={10.1109/GLOCOM.2016.7842344},
  ISSN={},
  month={Dec}.}
References - 1


References - 2


Citations

• Systems and artifacts
  – Generally immediately after the names
    AnguLoc [5] is better than SideLoc[6].

• Narrative
  – Generally at the end of the sentence

Researchers have made a lot of progress in this field in the last five years [6]
This solution is scalable as the number of transmitting anchors can be small and can be scheduled in different time slots. With the usage of inter-anchor concurrency, solutions like AnguLoc [1] managed to make it more efficient. However, this architecture is not cost-effective as described earlier.

In addition to that, new light-emitting technologies, such as LEDs, become more popular and accessible, enabling new perspectives for optical wireless communication [7], [8]. Finally, the increasing interest and exploration of the
Citation Format

Number: [n]

Author / year: [Gnawali et al. 2020]

In text without [], or (), e.g., Gnawali et al. proposed a new technique.

Consult the instruction for your conference or journal. Number [n] format common in our fields.
HW3

Pick ten papers related to your research

Summarize each paper in 2-3 sentences
Why is it important?
Contributions? Strengths? Weaknesses?

Improve related work organization for one of the papers.