PSHH lab

https://pshhlab.github.io

세종대학교 SEJONG UNIVERSITY

ORIENTATION

Research methodology

세종대학교 SEJONG UNIVERSITY

- Define the scope
- Literature review to capture backgrounds and current studies
- Select a narrow topic (why is this topic deserved to be studied?)
- Formulate the research question into computer science problems
- Develop a feasible approach to resolve the problems
- Prove the correctness of proposed solution in theory
- Validate the proposed solution by simulation/emulation/test-bed
- Compare performances of the proposed solution with those of others

Types of publication

세종대학교
SEJONG UNIVERSITY

- Journal paper
- Conference paper
- Technical report
- Patent
- Software
- Etc.

Journal paper

세종대학교 SEJONG UNIVERSITY

- Magazine paper

to provide overview, state of the arts, outlook, visions, future trends

- ✓ IEEE Communications Magazine
- ✓ IEEE Wireless Communications
- ✓ IEEE Network
- ✓ IEEE Internet Computing
- ✓ IEEE Vehicular Technology Magazine

- Survey/Tutorial paper

to provide summaries, statistics, analyses of existing studies in literature, then derive future trends

- ✓ IEEE Communications Surveys and Tutorials
- ✓ Proceedings of the IEEE
- ✓ ACM Computing Surveys
- ✓ Computer Science Review

Journal paper

세종대학교 SEJONG UNIVERSITY

- Technical paper

to target a specific technical problem and propose an efficient solution for it

✓ Regular paper (8 – 15 pages)

- IEEE Transactions on Communications (TCOM)
- IEEE Transactions on Networking (TNET)
- IEEE Transactions on Wireless Communications (TWC)
- IEEE Journal on Selected Areas in Communications (JSAC)
- IEEE Transactions on ...
- Future Generation Computer Systems (FGCS)
- Computer Networks (COMNET)

✓ Letter paper (2 – 6 pages)

- IEEE Communications Letters
- IEEE Networking Letters

Documentation tool

세종대학교 SEJONG UNIVERSITY

- Latex
- Online editor (Overleaf)
- How to use Latex (https://en.wikibooks.org/wiki/LaTeX)
- How to write equations
  - ✓ Docs: (http://moser-isi.ethz.ch/docs/typeset_equations.pdf)
  - ✓ Easy tool: https://editor.codecogs.com
- Figures should be formated in PDF instead of png or jpeg

Scientific paper structure

세종대학교 SEJONG UNIVERSITY

- Title: keyword, scenario, problem, method
- Abstract: description of paper structure

1. Introduction: scenario, problem, approach, contribution
2. Related work: existing work
3. System model: mathematically describe the system and problem
4. Proposed solution: (mathematically) describe solution (algorithm)
5. Performance evaluation: describe simulation setup and comparison
6. Conclusion: conclude the paper with some remarks