**Format:**

**#. “[Title of paper]” [What I personally rate it out of 10]**

* Couple of short descriptions.
* link(s) to the paper.

**5G/6G Networks**

**Possible Approach:**

1. **Explaining what is 5G/6G.**
2. **Why we should use it.**
3. **Showing real and potential application/innovation examples.**
4. **Explaining issues/downside with it.**
5. **Current/future solutions to these issues.**
6. **“The Rise of 5G and the Imperative of Gigabit-Fast Wi-Fi at 5 and 6 GHz”. 6/10**

* Examples of the uses for 5G and 6G.
* Short examples of uses in farming, automation, hospital, etc.
* IoT for farming in rural areas.
* <https://www.jstor.org/stable/resrep25420.4?searchText=5g+6g&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3D5g%2B6g&ab_segments=0%2FSYC-6744_basic_search%2Fcontrol&refreqid=fastly-default%3A5d4aab571c014c612609fac5f4d24101&seq=1#metadata_info_tab_contents>

1. **“Edge Networks, Core Policy: Securing America’s 6G Future”. 8/10**

* 6G in general from, broken down into smaller articles.
* 6G A Primer expands on how it can transmit higher volume of data, expanding network topology, etc.
* <https://www.jstor.org/stable/resrep38775>
* <https://www.jstor.org/stable/resrep38775.5#metadata_info_tab_contents>

1. **“From 5G to 6G—Challenges, Technologies, and Applications”. 10/10**

* Downside of 5G
* Changing from 5G to 6G
* Applications of 6G
* <https://www.mdpi.com/1999-5903/14/4/117>

1. **“Implementation Challenges and Opportunities in Beyond-5G and 6G Communication”. 10/10**

* More applications of 5G/6G, along with challenges to be solved.
* Multiple-Input Multiple-Output (MIMO), Better computing with CMOS (semiconductors), IoT Sensors, and more.
* <https://ieeexplore.ieee.org/abstract/document/9318749>

1. “**America’s 5G Era: Gaining Competitive Advantages While Securing the Country and Its People “.3/10**

* Why it’s important from a competitive perspective.
* Funding big tech companies.
* Staying competitive for securing jobs
* <https://www.jstor.org/stable/resrep32529?searchText=5g+6g&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3D5g%2B6g&ab_segments=0%2FSYC-6744_basic_search%2Fcontrol&refreqid=fastly-default%3A5d4aab571c014c612609fac5f4d24101&seq=3#metadata_info_tab_contents>

1. **“Data Plane and Control Architectures for 5G Transport Networks “. 6/10**

* Finding solutions to transporting data issues.
* “In short, the major challenges for 5G transport are programmability, flexibility, and finding the right balance of packet and optical technologies to provide the capacity demanded by the Networked Society.”
* <https://ieeexplore.ieee.org/document/7397818>

1. “**Planning 5G Networks Under EMF Constraints: State of the Art and Vision”. 5/10**

* Dealing with EMF with 5G.
* Maintaining QoS with 5G.
* Planning and potential solutions.
* <https://ieeexplore.ieee.org/document/8453791>

**Internet of Things (IoTs) with a Network Design/Topology Focus**

**Possible Approach:**

1. **Explaining what IoT is.**
2. **Explain why we should use it and possible ways to implement it.**
3. **Showing examples of possible IoT network topology.**
4. **Explaining issues/downside with each one.**
5. **Current/future solutions to these issues for each one.**
6. **“Internet of Things beyond the Hype: Research, Innovation and Deployment”. 10/10**

By Ovidiu Vermesan1, Peter Friess2, Patrick Guillemin3, Raffaele Giaffreda4, Hanne Grindvoll1, Markus Eisenhauer5, Martin Serrano6, Klaus Moessner7, Maurizio Spirito8, Lars-Cyril Blystad1 and Elias Z. Tragos9.

* Application of IoT.
* Potential innovation from IoT.
* <http://www.internet-of-things-research.eu/pdf/Internet%20of%20Things%20beyond%20the%20Hype%20-%20Chapter%203%20-%20SRIA%20-%20IERC%202015_Cluster_%20eBook_978-87-93237-98-8_P_Web.pdf>

1. **“A Step toward Next-Generation Advancements in the Internet of Things Technologies” 10/10**

* Applications of IoT.
* IoT overlapping with other fields, such as AI.
* An Example of how IoT will connect from applications to user devices.
* Future challenges for new technologies.
* <https://www.mdpi.com/1424-8220/22/20/8072>

1. **“Edge Networks & Devices for the Internet of Things”. 4/10**

* Comparing planning for IoT with planning for the internet.
* How to plan for IoT.
* <https://www.jstor.org/stable/24711592?searchText=Internet+of+Things+network&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3DInternet%2Bof%2BThings%2Bnetwork%26groupefq%3DWyJyZXZpZXciLCJzZWFyY2hfYXJ0aWNsZSIsInNlYXJjaF9jaGFwdGVyIiwibXBfcmVzZWFyY2hfcmVwb3J0X3BhcnQiLCJyZXNlYXJjaF9yZXBvcnQiLCJjb250cmlidXRlZF90ZXh0Il0%253D%26pagemark%3DeyJwYWdlIjozLCJzdGFydHMiOnsiSlNUT1JCYXNpYyI6NTB9fQ%253D%253D&ab_segments=0%2FSYC-6744_basic_search%2Fcontrol&refreqid=fastly-default%3A1b3c02e53ff252ac6793d1cff8516142&seq=1&oauth_data=eyJlbWFpbCI6InNhbW9ub3JvbWNodW1AZ21haWwuY29tIiwiaW5zdGl0dXRpb25JZHMiOltdfQ#metadata_info_tab_contents>

1. “**IPv6-Based Architecture of Community Medical Internet of Things”. 6/10**

* One proposed architecture using IPv6 for community medical devices in IoT.
* Overall, an example of implementation.
* <https://ieeexplore.ieee.org/document/8281029>

1. **“A Versatile Out-of-Band Software-Defined Networking Solution for the Internet of Things”. 8/10**

* Another proposed example using IoT, for Wireless Sensor Networks (WSN).
* Very robust and they include data when testing it.
* <https://ieeexplore.ieee.org/document/9104964>

1. **“A Top-Down Survey on Optical Wireless Communications for the Internet of Things” 7/10**

* Detailed report of using IoT to help with optical data.
* Using IoT with optical devices in various regions such as underwater or underground.
* Broken down into the different layers.
* Examples such as “smart farming”, “smart cities”,
* <https://ieeexplore.ieee.org/document/9941340>

1. **“Internet of things (IoT) in nano-integrated wearable biosensor devices for healthcare applications”. 2/10**

* Applications and medical device examples.
* <https://www.sciencedirect.com/science/article/pii/S2590137022000486>