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| S.NO. | APPLICATION DOMAIN | COMPLEX PROBLEM  IDENTIFIED | JUSTIFICATION |
| 1. | ELECTRONIC VEHICLE | 1. Battery issue 2. Charging issue 3. Loading capacity issue 4. Price issue | 1.Many people complain about battery life of EVs but there is not a particular solution about this  2. There are no charging stations every where so it is not possible to travel a long distance  3. EVs does not generate enough power to load heavy objects.  4. They are costly as compared to petrol vehicles |
| 2. | AI driven diagnostic tool | 1. lack of transparency 2. difficult to understand how they reach to a particular diagnosis | 1. AI algorithm specially those used in machine learning and deep learning can analyse the large volume of complex medical data with high accuracy identifying patterns that may be missed by human clinicians 2. AI can assist in easy detection of disease like cancer by analysing medical images and genomic data |
| 3. | Quantum computing in cryptography | 1. complex mathematical structure used in algorithm design 2. traditional cryptographic algorithm and vulnerabilities | 1. studies on traditional cryptography methods literature on Quantum algorithm such as shor's algorithm and mathematical analysis of the proposed cryptographic solutions |
| 4. | environmental impact of renewable energy system | 1. carbon footprint life cycle analysis 2. cost benefit analysis social acceptance | 1. literature review on environmental assessment methodologies, engineering research on renewable Technology and economic model related to the adoption of renewable energy system. |
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