|  |  |  |  |
| --- | --- | --- | --- |
| s.no | APPLICATION DOMAIN | COMPLEX PROBLEM IDENTIFIED | JUSTIFICATION |
| 1. | Finance | Fraud Detection in Transactions | Financial fraud detection involves analyzing vast amounts of transactional data in real-time to identify suspicious patterns. This requires advanced algorithms, machine learning models, and the ability to adapt to evolving fraud tactics, making it a complex challenge. |
| 2. | |  | | --- | | Smart Cities |  |  | | --- | |  | | Integrating IoT Devices for Urban Management | Smart city infrastructure relies on numerous IoT devices that need to communicate seamlessly. Managing data flow, ensuring interoperability, and maintaining security across these devices presents significant technical and logistical challenges. |
| 3. | Agriculture | Precision Farming and Resource Management | Precision farming involves analyzing vast amounts of data from sensors, drones, and satellites to optimize resource use and crop yields. The complexity lies in integrating diverse data sources, applying machine learning, and adapting to environmental changes. |