| **S.No** | **Application Domain** | **Complex Problem Identified** | **Justification** |
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| 1 | Healthcare | Predictive diagnosis of rare diseases | Limited data, variability in symptoms, and high stakes for misdiagnosis |
| 2 | Climate Modeling | Accurate long-term weather prediction | Chaotic systems, vast data integration, and computational limitations |
| 3 | Cybersecurity | Real-time threat detection | Evolving attack vectors, high false positives, and massive data throughput |
| 4 | Urban Planning | Optimizing traffic flow | Dynamic human behavior, infrastructure constraints, and real-time adaptation |
| 5 | Artificial Intelligence | Ethical AI decision-making | Ambiguity in values, lack of universal standards, and unintended consequences |