**Network Performance:** AI can be used to optimize network performance by analyzing network traffic patterns, identifying bottlenecks, and fixing issues. This will contribute in the enhancement of the performance of the AT&T network. For example the AI function can provide either statistics or predictions on the gNB status information, gNB resource usage, communication performance and mobility performance in an Area of Interest; in addition, the AI function may provide statistics or predictions on the number of UEs that are located in that Area of Interest. It also can detect and predict if the gNB is overladed and can remove the overlading from a specific gNB or a group of gNBs. NWDAF can do such functionality.

**Customer QoE:** It is important for AT&T to make sure the customers get the service they are paying for. AI can provide Observed Service Experience (i.e. average of observed Service MoS and/or variance of observed Service MoS indicating service MOS distribution for services such as audio-visual streaming as well as services that are not audio-visual streaming such as V2X and Web Browsing services) analytics, in the form of statistics or predictions, to a service consumer. The MOS is usually measured as score from 1-5. If the MOS is low, the network should make an attempt to improve the QoE for VIP customers through giving them more network resources. NWDAF can do such functionality.

**Customer Service:** AI can be used to improve AT&T’s customer service by providing personalized recommendations and support to customers. For example, AI-powered chatbots or chatgpt can help customers troubleshooting common issues and answer questions, freeing up human customer service agents to focus on more complex problems.

**Marketing**: AI can be used to improve AT&T marketing campaigns by analysing customer data and behaviour to provide more targeted and relevant messaging. This can help AT&T attract new customers and retain existing ones.

**Fraud Detection:** AI can be used to detect and prevent fraud in AT&T’s business, by analysing customer data and transaction history. AI using Machine learning can learn **specific patterns in datasets** without any human assistance. Then the AI system can detect fraudulent patterns and flag them for further investigation. There are many  commercial [Fraud and Financial Crime Management](https://www.bottomline.com/us/solutions/fraud-and-financial-crime-management) solutions which AT&T can use.

**Network Security:** AI can be used in so many ways to enhance AT&T network security, such as:

* **Intrusion Detection:** AI can be used to detect unusual network behaviour by analysing network traffic and identify suspicious activities (e.g. malware). Such functionalities can be added to NWDAF.
* **Suspicious User behaviour:** AI can be used to monitor user activity on the network and identify anomalies that may indicate malicious activities. This functionality already part of NWDAF.

**Predictive Maintenance:** AI can be used to improve AT&T equipment maintenance by predicting when equipment is likely to fail and schedule maintenance proactively to reduce the equipment downtime and improve the overall network reliability.