Here’s an assurance case for the interpretability of the DeepMind Machine Learning enabled system using Goal Structuring Notation (GSN) laid out in a hierarchical tree format:

- \*\*Goal 1: Assure that the DeepMind Machine Learning System is Interpretable\*\*

- \*\*Strategy 1.1: Demonstrate via system design and data handling that the machine learning system promotes interpretability\*\*

- \*\*Goal 1.1.1: Assure that the system design incorporates features that facilitate interpretability\*\*

- \*\*Evidence 1.1.1.1: Documented system architecture showing modules that support interpretability\*\*

- \*\*Evidence 1.1.1.2: List of interpretability features in the system\*\*

- \*\*Goal 1.1.2: Assure that data inputs and outputs are interpretable\*\*

- \*\*Evidence 1.1.2.1: Description and examples of data inputs and outputs\*\*

- \*\*Evidence 1.1.2.2: User feedback on the interpretability of data inputs and outputs\*\*

- \*\*Strategy 1.2: Validate interpretability through testing and user feedback\*\*

- \*\*Goal 1.2.1: Perform qualitative testing to validate interpretability\*\*

- \*\*Evidence 1.2.1.1: Test plan that includes interpretability tests\*\*

- \*\*Evidence 1.2.1.2: Test results demonstrating interpretability\*\*

- \*\*Goal 1.2.2: Gather and analyze user feedback to ensure comprehensibility\*\*

- \*\*Evidence 1.2.2.1: Surveys and interview protocols\*\*

- \*\*Evidence 1.2.2.2: Summary of key findings from user feedback\*\*

This tree outlines the main goal, broken down into strategies and subsequent goals supported by direct evidence, creating a structured argument for the interpretability of the DeepMind Machine Learning system. Each level of the tree dives deeper into how each aspect of the system contributes to its overall interpretability, from system design to user interaction.