Based on the provided assurance case pattern and the domain information about the DeepMind system, I will instantiate the assurance case pattern for the system, replacing placeholders with specific information and ensuring the hierarchical tree structure properly represents the case. Here is the instantiated assurance case for DeepMind's interpretation in medical imaging and diagnosis:

\*\*Assurance Case for DeepMind's Medical Imaging Interpretability:\*\*

- \*\*G1: Interpretability Claim. The DeepMind ML Model is sufficiently interpretable in the intended clinical context\*\*

- C1: DeepMind ML Model processes retinal scans and provides diagnosis and referral.

- C2: Interpretability in clinical settings is crucial for clinician's trust and practical application.

- C3: Context: clinical setting focusing on time and clinician audience.

- \*\*S1: Argument based on the essential aspects of interpretability\*\*

- C4: Essential aspects involve transparency, alignment with clinical decision-making, and comprehensibility.

- \*\*G2: Right Method. The right interpretability methods are implemented in DeepMind, i.e., tissue-segmentation map\*\*

- C5: Interpretability methods include mid-process outputs like segmentation maps which enhance understanding.

- \*\*S2: Argument over interpretability methods\*\* (undeveloped)

- \*\*G8: Interpretability method (tissue-segmentation map) is the right type, e.g., local/global\*\* (undeveloped)

- \*\*G9: Interpretability method (tissue-segmentation map) is suitably faithful to ML model process\*\* (undeveloped)

- \*\*G3: Right Context. Interpretations produced in the clinical context\*\*

- C6: The format and timing of outputs align with clinical workflow requirements.

- \*\*G4: Right Format. Interpretability methods are presented in the right format for clinicians\*\* (undeveloped)

- \*\*G5: Right Time. Interpretations produced at the appropriate time during diagnostics\*\* (undeveloped)

- \*\*G6: Right Setting. Interpretations are available in the medical consultation setting\*\* (undeveloped)

- \*\*G7: Right Audience. Interpretations produced for clinical users\*\* (undeveloped)

This assurance case provides a structured overview of how DeepMind's ML Model addresses interpretability in a medical imaging context crucial for integration into clinical pathways. The primary goal G1 is supported by a strategy (S1) and several goals detailing the right approaches and contexts for interpretability. Some goals and strategies are marked undeveloped, indicating areas requiring further elaboration or evidence collection to fully establish the case.