Sample Technical Questions

What technical challenges have you encountered so far in optimizing the AI model for real-time stroke detection, and what strategies have you considered to address them?

How satisfied are you with the accuracy and performance of the current deep learning model (ResNet50), and do you believe the transition to a lightweight architecture like MobileNet would significantly impact detection capabilities?

From a user experience perspective, what features do you think are essential to implement in the frontend (e.g., live camera feed, real-time chatbot)? How can we make the platform more intuitive for non-technical users?

What are the potential risks or limitations of integrating real-time emergency response services (such as 911) into the platform, and how can we mitigate these challenges both technically and legally?

How do you envision expanding the dataset to improve model generalization across diverse demographics, and what methods would you suggest for ensuring data integrity and ethical usage?

Technical challenges with optimization: The main challenge has been balancing model complexity and real-time inference speed. To address this, we are exploring techniques like pruning and quantization to reduce the size and computational load, while considering a shift to lightweight architectures like MobileNet for faster performance.
Satisfaction with ResNet50 and transition to MobileNet: ResNet50 has provided high accuracy, but its computational demands pose challenges for real-time use. While MobileNet offers a more lightweight option, careful evaluation is needed to ensure that detection capabilities remain robust without compromising accuracy.
Essential frontend features: The live camera feed and real-time chatbot are essential for enhancing user interaction, making stroke detection accessible in real-time. A focus on simplicity and intuitive design is key, especially for users who are not tech-savvy, ensuring they can easily engage with the platform.
Risks of integrating emergency response services: The integration of emergency services poses technical and legal challenges, particularly around compliance with regulatory requirements. To mitigate this, we plan to collaborate with authorities to ensure seamless, lawful integration, prioritizing user safety and data privacy.
Expanding the dataset and ensuring ethical usage: Expanding the dataset will require acquiring images from diverse demographics to improve model generalization. We plan to apply data augmentation and carefully manage ethical considerations such as consent and privacy to ensure the data is used responsibly.