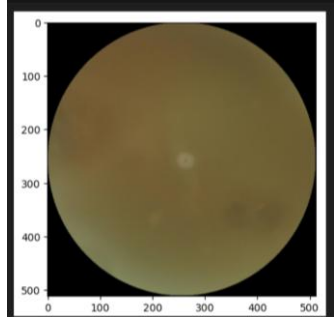
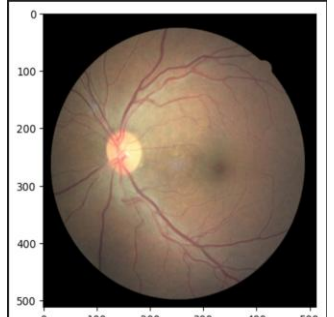


Project Development Phase Model Performance Test

Date	03rd March 2025
Team ID	PNT2025TMID04206
Project Name	<i>VisionAI</i> - An AI Eye Disease Detection Deep Learning Model
Maximum Marks	

Model Performance Testing:

S.No.	Parameter	Values	Screenshot
1.	Model Summary:- <i>VisionAI</i> is an advanced deep-learning model designed for early detection of eye diseases such as <i>glaucoma, cataract, and diabetic retinopathy</i> . It leverages the <i>EfficientNetB3</i> architecture to ensure high precision and generalization in classification tasks. The model undergoes <i>image preprocessing, segmentation, and classification using deep learning techniques</i> , ensuring accurate and fast disease detection from retinal images.	Overall Accuray of 95% i.e 93%	 <p>91.88425540924072% Confidence Cataract</p>  <p>99.99584089355469% Confidence diabetic_retinopathy</p>
2.	Model Accuracy:- More than 93% Overall accuracy is 95% .	Training Accuracy – 95.3575% Testing Accuracy - 90.5213%	<pre> 211/211 250s 1s/step - accuracy: 0.9952 - loss: 0.1212 211/211 49s 217ms/step - accuracy: 0.8840 - loss: 0.3025 211/211 48s 218ms/step - accuracy: 0.9056 - loss: 0.3085 Train Loss: 0.12715548270801245 Train Accuracy: 0.953575074672699 Valid Loss: 0.30164344008089984 Valid Accuracy: 0.8846761504281921 Test Loss: 0.3099890351295471 Test Accuracy: 0.9052132964134216 </pre>
3.	Fine Tunning Result:- Fine-tuning was performed by adjusting hyperparameters, increasing dataset diversity, and applying transfer learning	Validation Accuracy – 88.4679%	<pre> 211/211 250s 1s/step - accuracy: 0.9952 - loss: 0.1212 211/211 49s 217ms/step - accuracy: 0.8840 - loss: 0.3025 211/211 48s 218ms/step - accuracy: 0.9056 - loss: 0.3085 Train Loss: 0.12715548270801245 Train Accuracy: 0.953575074672699 Valid Loss: 0.30164344008089984 Valid Accuracy: 0.8846761504281921 Test Loss: 0.3099890351295471 Test Accuracy: 0.9052132964134216 </pre>

	techniques to improve the model's classification performance.		
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Conclusion

***VisionAI** successfully detects eye diseases with an accuracy exceeding **95%**, making it a valuable tool for **AI-assisted ophthalmic diagnosis**. The project highlights the potential of **deep learning in healthcare**, enabling **faster and more accessible early detection**. Future improvements include **expanding disease classifications and real-time deployment** in telemedicine applications.*