DeepSense - Training Report

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DEEPSENSE MODEL - TRAINING REPORT

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TRAINING CONFIGURATION

Data Dir: C:\Users\ASUS\OneDrive - Middlesex University\Desktop\SIC_Deepfake\deepfake-iris-detection\data
Epochs: 5
Batch Size: 16
Device: cpu
Real Samples: 2500
Fake Samples: 2500
Train Samples: 4000
Val Samples: 500
Test Samples: 500
Learning Rate: 0.0001
Weight Decay: 0.01
Dropout: 0.5
Label Smoothing: 0.1
Use Cache: True

MODEL INFORMATION

Model Name: DeepSense Multi-Modal Deepfake Detector
Total Parameters: 3,472,031
Trainable Parameters: 3,471,977
Input Iris Size: 64x64
Input Face Size: 224x224
Num Branches: 5
Feature Dimensions: 576
Trained Epochs: 5

TRAINING HISTORY

Epoch Train Loss Train Acc Val Loss Val Acc Val AUC

```
------------------------------------------------------------
1 0.5431 76.78% 0.5133 81.00% 0.8517
2 0.4887 81.38% 0.5052 80.80% 0.8827
3 0.4676 83.58% 0.4693 84.80% 0.8910
4 0.4532 84.70% 0.4422 85.40% 0.9153
5 0.4464 84.88% 0.4125 87.00% 0.9219
```

FINAL TEST SET EVALUATION

```
--- Classification Metrics (Real vs Fake) ---
Accuracy: 89.20%
Precision: 0.8425
Recall: 0.9685
F1-Score: 0.9011
AUC-ROC: 0.9418

Confusion Matrix:
Predicted
Real Fake
Actual Real 200 46
Actual Fake 8 246
```

SUMMARY

```
Final Test Accuracy: 89.20%
Final Test AUC-ROC: 0.9418
Final Test F1-Score: 0.9011
```