SIV 864 Project Proposal: Face Detection and Recognition

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1 Introduction

Multimedia processing and communication play a vital role in various applications, and one of the key aspects is face detection and recognition. This project proposal outlines our plan to conduct a comprehensive survey on algorithms for face detection and recognition, aiming to compare their performances. We believe that this project aligns with the objectives of the SIV864 Special Module on Multimedia Processing and Communication.

2 Project Scope

Our project focuses on the following key aspects:

- **Face Detection:** We will survey and compare existing face detection algorithms. This will include a review of research papers and available online material.

- **Face Recognition:** We will extend our study to encompass face recognition algorithms. We will explore recent research papers, emphasizing topics where implementations are available for practical experimentation.

- **Performance Comparison:** The core of our project involves implementing selected face detection and recognition algorithms and conducting a comparative study. We aim to assess their strengths, weaknesses, and real-world applicability.

3 Methodology

Our methodology involves the following steps:

1. **Literature Review:** Conduct an in-depth review of academic papers, online resources, and implementation documentation related to face detection and recognition.

2. **Algorithm Selection:** Choose a set of algorithms for face detection and recognition based on their popularity, recent advancements, and availability of implementations.

3. **Implementation:** Implement the selected algorithms using publicly available codebases. Ensure reproducibility of results by documenting the setup and configura-

tions.

4. **Experimentation:** Conduct experiments to evaluate the performance of each algorithm. Use standard datasets and metrics to quantify and compare results.

4 Outcome and Deliverables

The project's outcomes will include:

- A detailed survey and analysis of face detection and recognition algorithms.

- Comparison of the selected algorithms based on experimental results.

- Documentation of the implementation details, experimental setup, and findings.

5 Conclusion

This project proposal outlines our plan to conduct a comprehensive study on face detection and recognition algorithms. We believe that the outcomes of this project will contribute valuable insights to the field of multimedia processing and communication.