Age & Gender Detection

Project Name: Real-time Age and Gender Data Collector

Project Type: Computer Engineering, Engineering Project II

Project Team: Emre TUNCER

Project Aim:

The project aims to create a Python-based Windows application that uses OpenCV and PyQt6 to collect age and gender data from a camera in real-time. It employs computer vision techniques to detect and analyze the age and gender of individuals in the video feed. The collected data is stored in a SQLite database, and the application includes report generation capabilities.

Output of the Project:

The project provides the following outputs:

1. **Real-time age and gender detection:** The application captures live video and uses computer vision to detect and analyze age and gender in real-time.
2. **Data collection and storage:** The project collects and stores age and gender data in a SQLite database, facilitating easy retrieval and analysis.
3. **Report generation:** The application generates reports based on the collected age and gender data for further analysis and presentation.

Tools:

- Python 3.11
- PyQt6
- OpenCV
- Pandas
- Matplotlib
- Seaborn
- SQLite

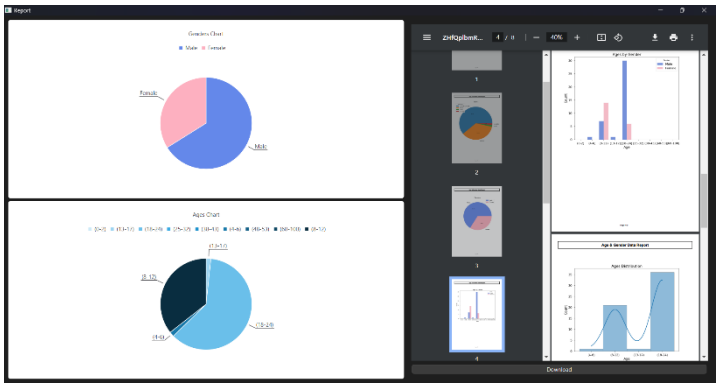

Figure 1: Report Window

Commercialization Potential:

1. **Camera integration:** The project can integrate with various cameras for age and gender data collection.
2. **Data-driven decision-making:** Generated reports enable informed decisions on customer demographics, marketing strategies, and resource allocation.
3. **Enhanced customer understanding:** The application provides insights for improved layouts and targeted offerings.
4. **Data-driven city planning:** Applied to public street cameras, it informs urban planning and infrastructure development.
5. **Data analysis services:** The project offers data analysis services for optimizing operations and driving data-informed decisions.

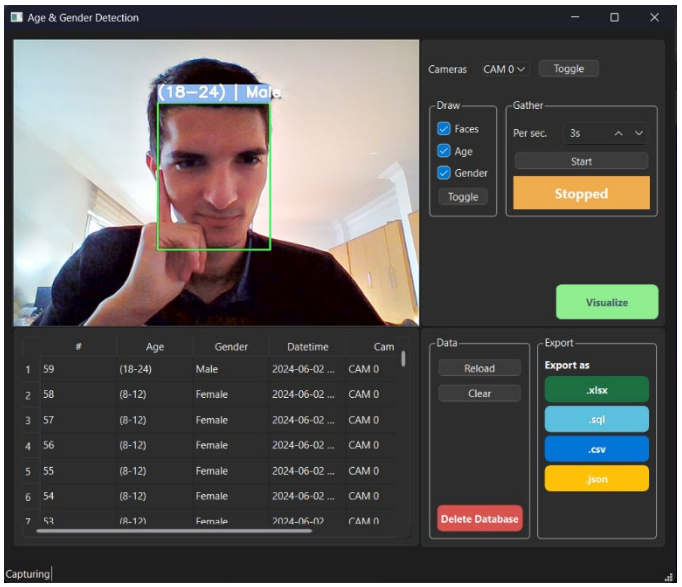

Figure 2: Main Window