User Manual: Photon Correlation for Two Qubit Using 1-Dimensional Detector

Repository: https://github.com/anuj-l22/DC $_P$ roject April 30, 2024

1 Introduction

This user manual provides detailed instructions on how to deploy and use the software developed for studying photon correlation in a two-qubit system using a one-dimensional detector. This document complements the code and data available in the GitHub repository.

2 System Requirements

The software has been tested and used on an Acer Aspire 5 laptop with the following specifications:

• Processor: Intel Core i5

• RAM: 16 GB

• Operating System: Windows 10

It is recommended to use a system with similar or higher specifications for optimal performance.

3 Repository Contents

- DC_initial_approach.ipynb: Notebook containing the initial approach.
- DC_improved.ipynb: Notebook containing the improved code with chunking.
- DC_final.ipynb: Notebook containing the final code for deployment.
- app.py: Deployment script for the web application.
- DC_Report.pdf: Detailed report of the project.
- DC.csv: Example dataset used in this project.
- User_Manual: This document.

4 Installation

To run the project, follow these steps:

- 1. Clone the repository: git clone https://github.com/your-github-username/repository-na
- 2. Navigate to the repository directory: cd repository-name
- 3. Install required packages: pip install streamlit numpy pandas matplotlib

5 Deploying the Application

To deploy the application using Streamlit:

- 1. Run the application: streamlit run app.py
- 2. Access the application through a web browser at http://localhost:8500

6 Using the Application

Describe how to use the application with the following placeholders:

- Input: Input is with 2 columns of data CSV files, number of rows.
- Output: Output will be a csv file

7 Example Usage

Data Vector Operation Web App

This application processes a CSV file based on user input and returns a sorted result.

Choose a CSV file

Drag and drop file here

Limit 200MB per file • CSV

Browse files

Figure 1: Input



Figure 2: Input no of rows

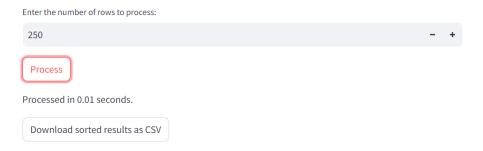


Figure 3: Output

8 Notes and Tips

- Ensure that your input data is correctly formatted as per the specifications in DC.csv which is a csv file with 2 columns of data
- The computational performance may vary depending on your system's specifications and workload.