

# ANALYSIS OF COVID-19 CHEST X-RAYS:

## Report 3: Final Report

Saniya Arfin, Yvonne Breitenbach, Alexandru Buzgan

May 2025

### Contents

<b>1</b>	<b>Introduction</b>	<b>2</b>
<b>2</b>	<b>Dataset Overview - Description of the "Chest-X-Ray" Dataset</b>	<b>2</b>
<b>3</b>	<b>Modelling</b>	<b>2</b>
<b>4</b>	<b>Conclusion and Future Work</b>	<b>2</b>
<b>5</b>	<b>Discussion - Reflecting on our project</b>	<b>2</b>
<b>6</b>	<b>References</b>	<b>3</b>
<b>7</b>	<b>Appendices</b>	<b>3</b>

# 1 Introduction

Some ideas:

Background and Project Motivation

Describe the context of the project, the public health importance of chest X-ray analysis, and the impetus for the study.

Outlines the background, motivation, objectives, scope, and structural layout of the report.

# 2 Dataset Overview - Description of the "Chest-X-Ray" Dataset

Some ideas:

Describes the "Chest-X-Ray" dataset in detail, discussing its composition, class imbalance issues, and data quality challenges, along with the preprocessing techniques applied.

source of the data

# 3 Modelling

Some ideas

Summary of the modelling. Must be content from our second report, but more filtered. Maybe only the best try from each model. And some graphical overview of how good theses "best" candidates are. So that the reader get's an overview. Don't include all the details!!!

Findings from traditional machine learning, findings from deep learning, and transfer learning.

# 4 Conclusion and Future Work

Some ideas:

Draw a Conclusion from the previous chapter:

Which is the model we chose? Why do we chose it?

How can this model be used? What are the limitations?

What has someone to keep in mind, when using the model?

# 5 Discussion - Reflecting on our project

some ideas:

Reflection on our work.

Interprets the experimental results, identifies strengths and limitations, and discusses potential clinical implications.

Questions we could answer, FROM DS: Report methodology:

Difficulties encountered during the project:

- What was the main scientific obstacle encountered during this project?
- For each of the following points, if you encountered difficulties, detail how they slowed you down in setting up your project.
- Forecast: tasks that took longer than expected, etc.
- Datasets: acquisition, volumetry, processing, aggregation, etc.

- Technical/theoretical skills: timing of skill acquisition, skill not offered in training, etc.
- Relevance: of the approach, model, data, etc.
- IT: storage power, computational power, etc.
- Other

## 6 References

Lists all the sourced literature and references cited throughout the report.

## 7 Appendices

???

Gantt diagram.

Description of code files.

You can find the GitHub repository belonging to this project here: [https://github.com/DataScientest-Studio/mar25-bds\\_analysis-of-covid-19-chest-x-rays](https://github.com/DataScientest-Studio/mar25-bds_analysis-of-covid-19-chest-x-rays)