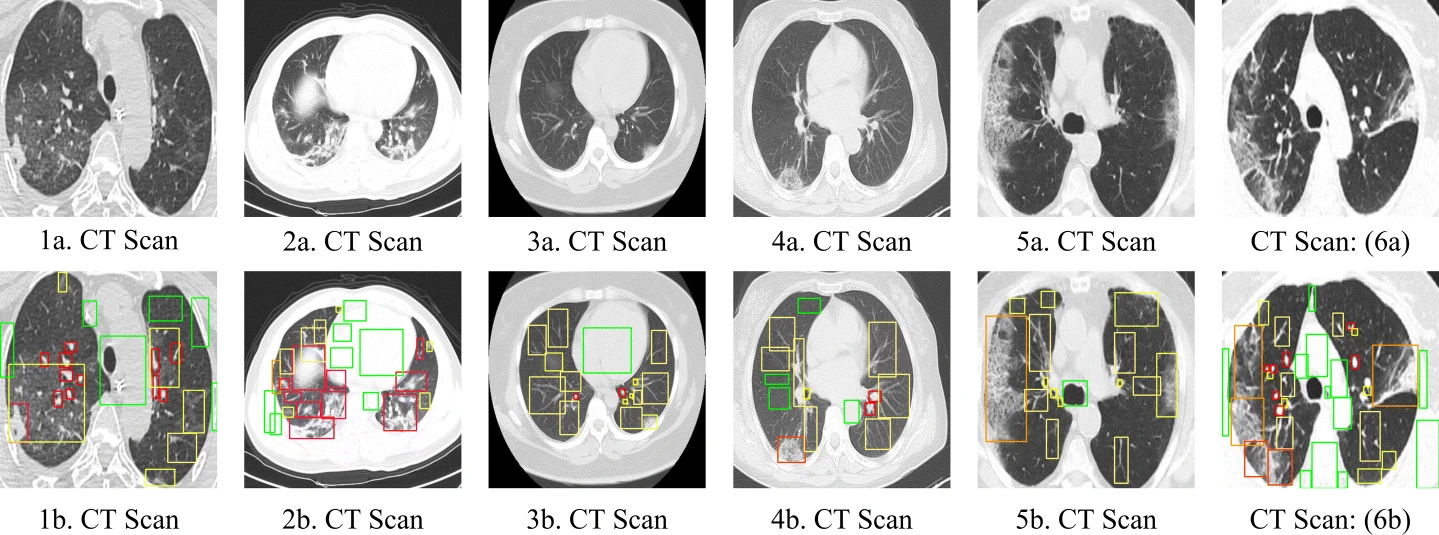
Lin Tun

CSC621-01

Team Earth

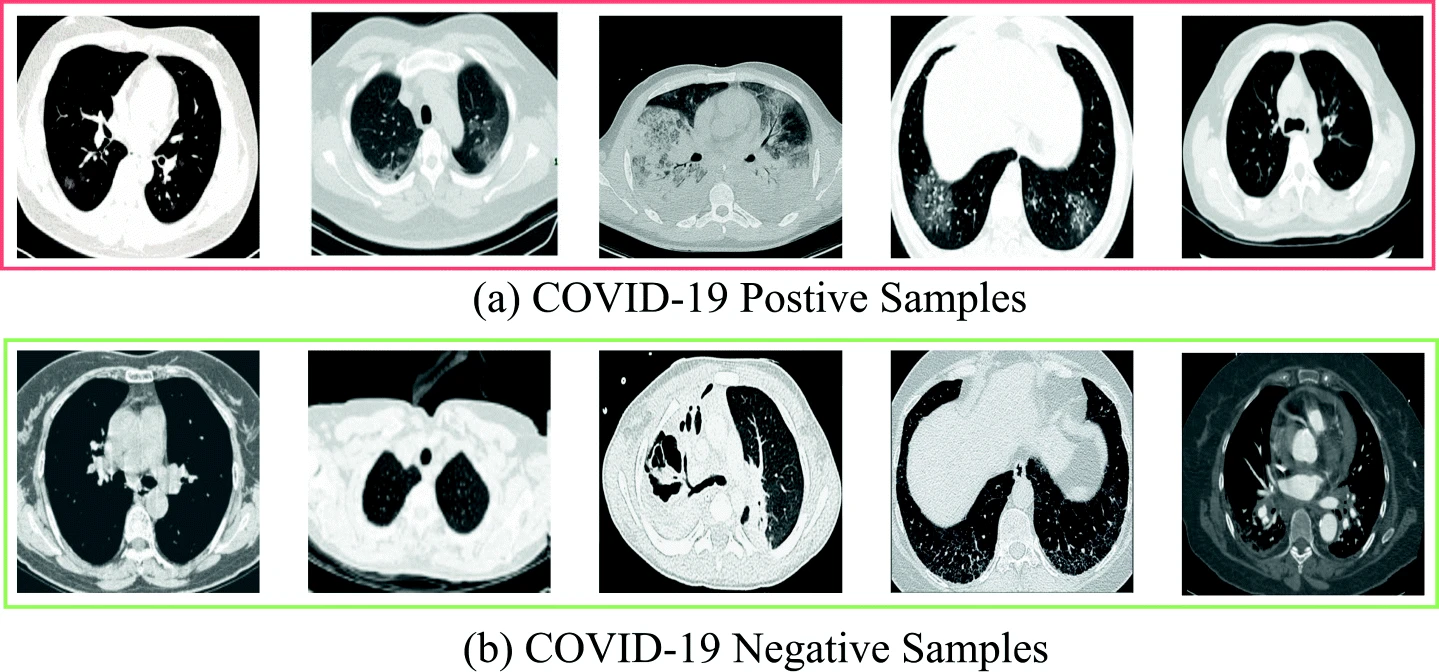
Analysis of Severity of COVID-19

**Sample Test of Positive Covid Test with the analysis of part that had COVID-19**



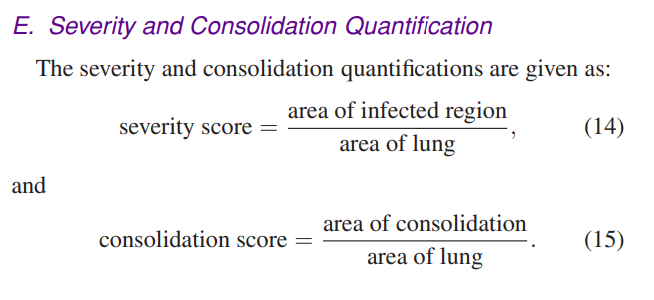
* The images show labeled COVID-19 characteristics in descending severity order, from yellow to red colored bounding boxes.
* The green bounding boxes emphasize negative samples or background categories for the model's hard negative mining.

**Example of the Covid Positive and Negative according to the research article**



Reference from [Quantifying prognosis severity of COVID-19 patients from deep learning based analysis of CT chest images](https://link.springer.com/article/10.1007/s11042-022-12214-6).

Quantification Results



**Our Database of Positive Covid Patients**

|  |  |
| --- | --- |
| 2.000000-ROUTINE CHEST NON-CON-50599 | 2.000000-ROUTINE CHEST NON-CON-70218 |
| Manual of severity score  Severity score==  Algorithm of severity score  Severity score== | Manual of severity score  Severity score==  Algorithm of severity score  Severity score== |
| Jaccard Index: 0.42064870518260133 | Jaccard Index: 0.34470577992263585 |

|  |  |
| --- | --- |
| 2.000000-ROUTINE CHEST NON-CON-97100 | 2.000000-ROUTINE CHEST WITH CONTRAST-49240 |
| Manual of severity score  Severity score==  Algorithm of severity score  Severity score== | Manual of severity score  Severity score==  Algorithm of severity score  Severity score== |
| Jaccard Index: 0.6030444689337103 | Jaccard Index: 0.13849750326007443 |

|  |  |
| --- | --- |
| 3.000000-0.625mm bone alg-30767 | 601.000000-COR 3X3-19359 |
| Manual of severity score  Severity score==  Algorithm of severity score  Severity score== | Manual of severity score  Severity score==  Algorithm of severity score  Severity score== |
| Jaccard Index: 0.5372794191561497 | Jaccard Index: 0.5199053111240223 |

|  |
| --- |
| 601.000000-COR 3X3-53956 |
| Manual of severity score  Severity score==  Algorithm of severity score  Severity score== |
| Jaccard Index: 0.07560746111695356 |

**To analyze the negative COVID-19 patients' lungs, overlay the CT Scan of positive Covid patient**

|  |  |
| --- | --- |
| Example of Covid Positive patient | 1.000000-NA-51699 |

|  |  |
| --- | --- |
| 2.000000-CHEST WITHOUT CONTRAST-71297 | 2.000000-CTA PE-14198 |

|  |  |
| --- | --- |
| 2.000000-NA-07089 | 2.000000-NA-11876 |

**Our Database of Negative Covid Patients**

|  |  |
| --- | --- |
| 1.000000-NA-51699 | 2.000000-CHEST WITHOUT CONTRAST-71297 |

|  |  |
| --- | --- |
| 2.000000-CTA PE-14198 | 2.000000-NA-07089 |

|  |
| --- |
| 2.000000-NA-11876 |