Lung Cancer Classification Using Computerized Tomography (CT) Data

Ethical and Legal Implications

Introduction

The recent advances in the Artificial Intelligence field, specifically in Machine Learning, have brought up a series of questions about the ethics, liability, safety and legal status of such fields.

The use of tools that benefit from AI and ML in sensitive areas like medicine (which is the case we are exploring in this task) must be highly regulated, so we can minimize the occurrence of errors and other problems that can quicky escalate.

All this being said, our objective with this informative file is to succinctly explain how our work was elaborated in a transparent, consensual, unbiased, safe and ethical way, like every other work should be.

Ethical Implications

While developing a work that requires the collection of data from different people, one of the most important aspects to take in account is the absence of bias towards any particular group of people. No discrimination whatsoever can be tolerated in this data collection, whether it derives from economical differences, racial groups or any other feature alike.

Furthermore, the understandability of the algorithms that are being used is also a topic to be discussed. Questions like “what data is being fed to the model?” and “how can we trust the output?” should be answered; as such, we should see a shift toward models with high interpretability, avoiding black box models, even if it means sacrificing performance.

More questions like liability, use of intellectual property, third party contracts and negligence laws should also be thoroughly analyzed.

Legal Implications

Any work that deals with data (collection, processing, exporting, …) in the EU should comply with the General Data Protection Regulation (GDPR), which defends that the protection of personal data is a fundamental right.

This legal regulation introduces the data subject rights, which are: right to be informed; right of access; right to rectification; right to erasure; right to restriction of processing; right to data portability; right to object.

It also deals with topics like data anonymization (assuring all data relating to personal identifiers is removed and the rest is correctly processed), consent (verifying if the dataset includes proper consent from patients) and obligations of the data controller (keeping records of processing activities, notification of data breaches, performance of data protection impact assessments, …).

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