Project and Professionalism (6CS007)

Professionalism Report

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Introduction

Technology has been a major factor in most aspects that we encounter in daily basis. Technology is used in research and development, most of the things we can see around is produced with equipment that is made with the help of modern technology. Technology is even used in Health facilities to detect diseases and it has been successfully helpful for humans to detect, predict and cure many diseases. As technology got developed in recent decades it has made a lot of change in human lifestyle. We can also see with the help of technology and its application areas the living standard and life expectancy of people is high as compared to past times. So, we can clearly say that technology has helped in uplifting the living standard of mankind. Technology does not only have positive aspects. Development of technology have created many problems such as data violation. As an example, recently Facebook had been sued for stealing user data. Recently human data have been one of the most valuable things in this world. It recently surpassed the valuation of petroleum. So, this kind of cases causes social and ethical issues. Technology and internet have made this world a global village. People can earn, trade, learn about everything and access many useful resources, but with that comes problems such as cybercrime, spam, viruses etc. that can also cause a major damage to internet users.

Social impact:

Social impact is the effect on people and communities that happens because of an action or inaction, an activity, project, programme, or policy. (Parrett, n.d.)

Positive impact:

Technology is increasing in a rapid manner. We can hear major achievements in technology sector every year. One of the major factors for rapid increase in technology is also development of technology itself. For example, because of internet any learning resources are accessible through internet and technology is increasing as there are users that share and solve their problems through internet such as with stack overflow and others. Now, we all know that technology have helped a lot in increasing human life expectancy and making peoples life easier for eg. Invention of washing machine helps us to wash clothes automatically without any manual effort.

My project is a part of image classification, it classifies images of national flags as input and recognizes it at an instance. This is not a big invention or something useful in a daily basis, but it is still useful for people to recognize the flag as there are many flags and recognizing between them can be a hard time. The new generation has been slowly

distracted from the knowledge we used to receive. Nowadays, most of the people do not even recognize the flag of their neighbouring countries. My project could be useful for people that need instant information for eg. flag image they see and try to recognize. But how to recognize it? They cannot just search by typing the detail of the flag. So this application helps users to just snap a picture of the flag they see and get the results they need. It might not seem very useful but can be a lifesaver in various moments. There are lots and lots of application areas for image classification such as google search by image which is used by millions of people in a daily basis. These inventions have helped millions of people for making their task easier and more efficient. This application saves the time and effort of users as it gives results in an instance.

Negative impacts:

It also has some negative aspects such as building such models slowly makes the upcoming generation fully dependent upon the AI models for a very small piece of information. This will bring a lot of change in the lifestyle, IQ levels and can create many other problems. As people predict that the future is of AI and computers it might happen as technology have developed in a very rapid manner in last two decades. This rate of development of technology will of course bring a lot of problem to mankind as it also provides a ton of services and tends to make peoples life easier. Many companies are making bots that help in the speed of production and reduces manual effort. Now, this may sound good but in long term effect this is very bad as it tends to remove manual effort which directly or indirectly effects human health due to lack of movement and directly helps in reduction of job opportunities that causes poverty.

Covid-19 was a breakdown recently that had a major impact in economy, healthcare, education of almost every country. There has not been a proper explanation of breakdown and the creation of the newly found Corona virus (Covid-19). Many experts believe that it is a result of advancement of technology and research. Many experts believe that Covid19 was created with the with the help of technology and research unknown to us. Utilization of computer and smartphones may result to physical strain, severe pain on backbone, shoulders, and arms due to bad posture. Poor eye vision is caused by spending long time on computer or screen. Radiation of TV or mobile may result to children eyes vision low. Researcher have found that young people who are using media are suffering from anxiety and depression. Spams, critics etc. on the internet have affected them. For a long time, researchers and developers have dreamt and are working on replacement of workers by new innovations and technologies not realising that the long-term effect of it can be worse. For example, use of horses have been replaced by vehicles likewise humans could also lose their job and poverty could increase at high rate.

Ethical Issues:

We live in a society with lots of people with lots of problems. Ethics is the knowledge of what is right and what is wrong to do. Ethics is directly related to Morality and Morality means how we act and how we live.

Privacy – The essential aspect of ethical issue is the privacy concern. Recently user data have been one of the most valuable assets surpassing the value of petroleum. So, anyone would want to have access to user personal data. In many cases we have seen that the user data have gone public without their consent. Users store their personal data in the user management system, this is how the data gets stored to the system. So, revealing those data is under the privacy issues. The data are easily accessible to the admin so there remains a chance of extracting the data and selling it to any third-party organization. There might also be privacy concerns when users receive spams, unwanted advertisement, unwanted mail inbox etc.

Copyright – Copyright is the legal way to give proper credit to its creator for their work. This application contains images from different websites and other sources with or without the consent of its owner. So, this system has got the chances of copyright issues if made public to the internet.

Legal implications:

The proposed system is a Flag recognition system that will use deep learning approach. The system will use different images from different websites and sources with or without the owner's consent. Copyright Act 2059 (2002) has to be followed if this system is to be made public. This rule has been made under the supervision of His Majesty the King Gyanendra Bir Bikram Shah Dev.

According to copyright act 2059(2020) Copyright Protection is something that comes naturally with the creation of its register. According to (section 25), replicating the copies of work and selling it by tricking the viewers from the original creation might get punished. According to sections 27,28 and 29 complying with the act and infringing the protected right might result in a fine of Rs 10000 to 1 lakh and imprisonment a term of 6 months to one year. So, if someone wants to transfer copyright there should be a written agreement with the terms and conditions. So, in that case, the section should not carry out other

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activities except right. There is a case of Copyright Act 2059(2002) where Mr.Nawal Jaisawal Chaudhary and Mr.Prachar Malla were convicted of the Copyright Act, 2059(2002) as they were charged for dubbing Nepali Movies and selling them on DVD's and taking undue profits from the customers without receiving proper permit to sell the copies from copyright owners. They were charged a compensation of Rs,4,66,000 with 20days in prison. (Paudel, 2067)

Likewise hacking have also become one of the major issues in Nepal and all around the world. Unauthorised access to user data, spam, etc have increased at a higher rate recently. Prior to 2004, the government of Nepal dealt with cybercrimes under the Public Offence Act. Under Act of 2004, hacking, deleting data, stealing e-documents, software piracy and posting defamatory information invite criminal and civil sanctioning to individuals and institutions. According to this act the government can punish the offender with five years in prison and/or up to fifty thousand rupees depending upon the crime committed. The law has tightened the security for banking transactions through electronic means, which should boost the economic activities across the Internet via Nepal. (TECHSANSAR, n.d.)

The Privacy Act, 2075 (2018) discusses about a lot of things related to privacy. It also states in chapter number 8 that "No person shall take picture of any other person without their consent". So, according to this law using picture of other people without their consent is officially punishable by law. It also states in chapter number 9 that "Every person shall have the right to maintain privacy of the matter relating to any of his or her personal information, document, correspondence, data or character that remained in electronic means". It also states that "No one shall obtain the notice, information, correspondence of any person remained in electronic means in unauthorized manner, violate or provide its privacy for anybody in unauthorized manner" or it would be directly punishable by the law. Recently we have seen that one of the most popular app TikTok have been banned in different countries for collecting the data of users and being collected by the Chinese government. This is an example that even big companies face a huge consequence with breach in data.

Security Aspects:

Security aspect is an essential part of the system that takes place over that internet. This system stores data of all its users. One of the most challenging parts of a system is to maintain personal data safe and secured. Even major companies have lost millions of dollars due to data breaches in order to maintain the data privacy this system asks the users to login before giving access to their account. As we know that the internet is a huge place where there are many hackers and data thirsty computer experts, making this application public to internet might be a risk as the data could be stolen and this application might not have internet security enough to prevent from hackers. At the time of registration of the user's encryption methods are to be applied for storing data for extra security. Even a minor leak of user personal data without their consent might result in a huge outcome. Every companies have its own security approaches. Accordingly, Flag recognition system will also apply some security measures for data security such as Data encryption with algorithms such as SHA-254, SHA-3 etc. Two factor authentications also can be implemented as most companies are implementing it nowadays. Also, sone extra features can be added for extra security such as if any user enters wrong password for 5 times his/her account would be locked in a temporary time and be notified via email.

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