A Survey of Artificial Intelligence in Smart Phones and its Applications among the Students of Higher Education in and Around Chennai City

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Abstract
In the current scenario, Smart Phones are one of the Artificial Intelligence devices regularly used by the students. The study aimed to know the utility of the SmartPhones in their day to day life, most useful applications and the valid security features of the Smart Phones and its impact among the Students at Higher Education level. Primary data collected from the College Students in and around Chennai City during September 2019 and December 2019 was used for the present study. The collected data were analyzed by using Statistical tools of Percentage, Mean Score, and Mean Rank.
Keywords: Smart Phones, Applications, Advantages, Uses, Threats.

Introduction

In recent years Artificial Intelligence became part of the life of the people. AI is used in many devices like Computers, Laptops, and Mobile Phones, etc., Among the various devices, Smart Phones become more popular among the students in higher education.

Mobile Phone becomes part of the students' life as their partner; it teaches them, speak to them, and play with them. Simply we can say that they are living with their Smart Phones. The students at higher education level are aware of the most useful applications and also using them for their upliftment.

Smart Phone occupies the place of many Electronic Devices like Watches, Camera, Calculator, Radio, Tape-Recorder, CDs, VCD, etc. The many applications used by the students are made them fit Digital India through Knowledge, Convenient, Health, and Safety. Smart Phones brought the students Smarter.

Review of Literature

Mr. Kaustubh Sanjay Kale (2018) inspects the use of AI in mobiles because AI uses varied functions of knowledge, technology which makes user's life simpler and economical. The study found that AI in smart phones acts as an associate in nursing help to individuals AI are going to be an industrial revolution which will change the individuals day to day life.

Jahanzaith Shabbier & Tarique Anwer (2015) the paper explains the modern AI basics and various representative applications of AI. The study found that artificial intelligence systems can learn, which allows people to improve their performance over time. The adoption of AI outside the technology sector provides real value to our lives.

Purity Yamakanith & Mr. P. Gurusamy (2014) studied the usage of social networking sites among the college students 600 students were included in the study both in Chennai & Coimbatore city. The result of the study reveals that the usage of SNS influences the interpersonal relationships of students.

Gaurav Jindal & Mridul Anand (2012), they studied different upcoming technologies which can be used frequently to raise the number of applications and services for mobile users. Android and AI are two different technology friendly things that can combine in mobile phones to make their usage more intelligent. The study concluded that all apps are essential and almost thoroughly engaged in people's life.

Virginia Dignum (2018), the study explored the impact of AI & its effects on the European Labour Market that are sensitive to human values. The study concludes that AI systems are fully under the control and responsibility of their owners or users. In the case of owners of the business using AI systems to monitor and increase productivity without direct human control. On the other hand, the worker uses an AI system for entertainment and their upliftment.

Research Gap

There were various studies related to Artificial Intelligence in various devices like mobiles, Traffic Signals, and other communicational devices and were also the study of AI applications and uses among the students and workers.

But the present study aimed to know the Artificial Intelligence in Smartphones. It is particular to study the usefulness of AI applications and threats among the students in and around Chennai.

The Objective of the Study
1. The study aimed to know the awareness of higher education students about artificial intelligence in smart phones.
2. It also aimed to find out the most useful application and security features mostly used by the students.

Methodology for the Study

The study aimed to identify the awareness of the students about artificial intelligence. Who enrolled themselves in higher education, take part in the present study, and reveal their opinion. Both the Primary data and secondary data were used for the study. The structured questionnaire consists of five parts, namely, demographic profile, various applications, the uses of applications, security features to protect the information, and the problems faced by the students and society were discussed to collect the primary data. The total 200 questionnaires were distributed to the students of various colleges in and around Chennai for this study, out of which 14 questionnaires were rejected due to incompleteness. The secondary data was collected from various books, journals, and articles published in reputed journals. Primary data collected from the College Students in and around Chennai City during September 2019 and December 2019 was used for the present study. The collected data were analyzed by using Statistical tools of Percentage, Mean Score, and Mean Rank.

About the Chennai City

Chennai is also known as the gateway to South India. The Chennai city has been chosen for the study because it is considered as one of India's IT Hub. People in Chennai city are using the highest number of internet connections in Tamil Nadu. The Chennai city is home to many educational & research institutions. Thus the study has been conducted among the students in and around Chennai city.

Efficient usage of Artificial Intelligence

Communication - Connecting people in just a minute without border barriers is one of the most advantages achieved through Artificial Intelligence.

Transformation - Transformation from paper to paperless world is now becoming possible through the use of Artificial Intelligence Green Environment, and Digital Environment can be easily achieved in the future.

Navigation - Searching the various unknown locations becomes easy by way of maps and reaching the particular area with a safe and secured manner can be possible through GPRS

Knowledge - AI is a source of knowledge. Many search engines are helping the students' community to gain knowledge in various subjects through their lecture notes, instructions, and demonstrations.

Public Awareness - Students hesitating to read and watch news also informed about public issues through the various Social Media connecting them with the people and making aware of the current affairs in the world.

Entertainment - No student feels alone when they are with their Smart Phones. AI makes them feel that they are life in Magic World, and they are the King or Queen of that World.

Memories - Photos and Videos were taken by the Students using their Smart Phones Communicate the History of the Photos and Sweet Memories of the Moments.

Threats involved in using Artificial Intelligence
- An AI created the Imaginary World for the Students with their Smart Phones.
- Students are connecting with their selected friends at any time and anywhere, but they are unconnected with the people around them like parents and relatives.
- Students know much Information through the various Social Media, they are aware of the public issues, but they are not ready to know the reality of the information.
- Some of the memories become threatening equipment for the Crimes.
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Representation of data and its understandings
Demographic Profile of the Users

Table 1: The Age Group of the Users

Age groups	No. of Students	Percentage
Below 18 years	32	17
18-20 years	73	39
20-22 years	54	29
Above 22 years	27	15
Total	**186**	**100**

This table represents that age group of students using AI Technologies in their smart phones. From the above table of age groups maximum of the users, i.e., 39% belongs to the age group of 18-20 years of age.

Table 2: Family Monthly Income (Rs.)

Family Monthly Income (Rs.)	No. of Students	Percentage
Upto 30,000	68	37
30,000 – 60,000	94	51
Above 60,000	24	13
Total	**186**	**100**

Based on the students' family monthly income, the majority of the students' family (51%) is under the income group of Rs.30,000 to 60,000.

Table 3: Gender

Gender	No. of Students	Percentage
Male	95	51
Female	91	49
Total	**186**	**100**

This table related to Gender Classification of the students' participated in the study reveals that 51% are male students.

Table 4: Education Qualification

Edu. Qualification	No. of Students	Percentage
Diploma (or) ITI	36	19
UG Degree	69	37
PG Professionals	81	44
Total	**186**	**100**

The above table shows the educational classification of the respondents. From this group majority of the respondents (44 %) are professionals.

Table 5: Residential Area

Residential Area	No. of Students	Percentage
Urban	83	45
Semi – Urban	75	40
Rural	28	15
Total	**186**	**100**

The Data reveals that the majority of the respondents (45%) participated and reveals their opinion of the study are from Urban Area.

Table 6: Uses of AI

Uses of AI	Opinion of the students			
1. Academic	Yes	%	No	%
Online lectures	136	73%	50	27%
Online Notes	145	78%	41	22%

Videos	153	82%	33	18%
Demonstrations	119	64%	67	36%
2. Financial Transactions				
Google pay	171	92%	15	8%
Paytm	164	88%	22	12%
Phone pay	160	86%	26	14%
Net banking	175	94%	11	6%
3. Bookings for Transportation				
Train	179	96%	7	4%
Bus	123	66%	63	34%
Auto	151	81%	35	19%
Car	154	83%	32	17%
4. Entertainment				
Audio	175	93%	11	7%
Video	177	95%	9	5%
Chats	179	96%	7	4%
Social media	182	98%	4	2%
5. Others				
Photoshop	171	92%	15	8%
Shopping carts	162	87%	24	13%
GPRS	171	92%	15	8%
Maps	175	93%	11	7%

This table shows the uses of AI among the students of Higher Education. The first part consists of the uses relating to Academic Purposes. It indicates that the majority of the students using videos for their Academic Purpose. The second part of the table identifies that majority of students using the net banking system followed by Google Pay is the next popular method of using Financial Transactions. From the third subdivision, we come to know that the respondents are very familiar with the online Train bookings using their smart phones. The fourth part relating to Entertainment plays the highest role, among the various entertainment options, Social Media reaches the more preference 98%. Social Media, like Facebook, Twitter, Instagram, etc., are mostly used and followed by higher education students. The last part consists of other uses of smart phones, reveals that GPRS and Maps are frequently used by the students.

Top 10 ranks of various uses of AI

Various uses	Mean Score	Ranks
Academic	2.68	5
Financial transactions	2.81	7
Transportation	3.08	9
Entertainment	2.11	1
Bookings	2.72	6
Maps	2.25	4
camera	2.18	3
Video calls	2.13	2
Weather report	3.25	10
Advertisement	3.02	8

The table shows the various uses of smart phones among the students. Entertainment with the lowest mean rank (2.11) is ranked first and followed by video call and camera secured second and third rank. The use of Maps ranked the fourth, and Academic usage ranked fifth based on the frequency of the use. Bookings have been ranked as sixth. Financial Transactions are ranked as seventh. The advertisement has been ranked as eighth, Transportation is ninth, and weather report has been ranked tenth. The Entertainment, video calls, and camera are the most popular artificial intelligence applications used by the Students.

Ranks of security features of AI

Security features	Mean Score	Ranks
Face lock	3.12	4
Finger lock	2.62	1
Pattern lock	2.64	2
Number lock	2.76	3
Voice lock	3.38	5
Pin lock	3.50	7
App lock	3.45	6

It is indicated that the security features of AI to protect user's data and other information. Finger lock is ranked first with a mean Rank of 2.62, followed by Pattern lock with a mean rank of 2.64, next number lock with a mean rank of 2.76. Face lock has been ranked fourth with a mean rank of 3.12; next Voice lock has been ranked fifth, App lock ranked as Sixth, Pin lock ranked as Seventh.

Top 10 ranks of frequently used apps of AI

Apps	Mean Score	Ranks
UC browser	3.80	8
Dumpster	3.92	9
True caller	2.59	4
Bomb it	3.98	10
Paytm	2.36	3
Share it	2.33	2
Google translate	3.13	6
Google pay	2.31	1
Amazon	3.72	7
Smart scan	3.02	5

It is seen from the table, the applications of AI frequently used among the students, it reveals that Google pay is ranked first with a low means score of 2.31, followed by shares has been ranked second, next Paytm has been ranked third, True caller has been ranked as fourth, followed by Smart scan has been ranked fifth, Google Translate has been ranked as sixth, Amazon has been ranked as seventh, next is UC browser ranked as eight, Dumpster has been ranked as ninth, and Bomb it has been ranked tenth with a high mean rank of 3.98.

Problems faced by Students

Problems of AI	Opinion of the students					
1. Physical	Agree	%	Neutral	%	Disagree	%
Eye	143	77%	25	13%	18	10%
Ear	102	55%	37	20%	47	25%
Neck pain	138	74%	36	19%	12	7%
Neuro problem	98	53%	52	30%	36	17%
2. Psychological						
Addiction	152	82%	20	11%	14	7%
Stress	121	65%	32	17%	33	18%
Loss of concentration	147	79%	26	14%	13	7%
Reducing memory power	108	58%	34	18%	44	24%
3. Social						
Accidents	151	81%	13	7%	22	12%
Threat of hacking information	106	57%	36	19%	44	24%
Cyber crimes	135	73%	12	6%	39	21%
Loss of money	148	79%	14	8%	24	13%

The above table indicates the problems felt by the students because of using smart phones. Some of the problems related to physical, psychological, and social problems are discussed with the students in this study. The first part consists of physical problems; it indicates that the majority of the users (77%) agreed that, Eye Problem is a major common problem felt by the students using smart phones. Followed by Neck Pain (74%), next is Ear Problems (55%) and followed by Neuro Problem (53%).

The second part consists of Psychological problems realized by the students. The Majority of the Users (82%) are addicted to using the Phones, followed by Loss of Concentration (79%), Stress (65%), and Reducing Memory power (58%).

The last part related to social problems like Accidents, Threat of hacking information, Cyber Crimes, and Loss of Money. From the options of the study Majority of users (81%) are agreed that they are facing accidents while using phones, followed by Loss of Money (79%), Cyber Crimes (73%) and Threat of hacking information like personal data and financial data (57%).

Limitations

Due to time and cost constraints the study was in 4 months. There is a chance for bias in the aspects of data collection and analysis,

The study was conducted during the period of examinations and vacation. Therefore, the researcher is unable to include many students for the study.

Students hesitate to share their views regarding various applications of their smartphones because they are unauthorized to use their smartphones.

Scope for Future Study
- Because of the limited time and cost the study was conducted among the very few students (186) the study can be further extended by including some more number of respondents.
- Future studies can also include school students; now they are also using many applications for their study purpose and entertainment.
- The study can compare the students of various districts and states to know their efficient use of artificial intelligence.
- The future study can also compare the uses and the various applications used by school students with college students.

Wrapping Up
The present study aimed to analyze the various uses of Artificial Intelligence in Smart Phones used by the students. The study discussed the different uses, applications, and security features in smartphones among the students enrolled in higher education. Most of the universities and colleges banned the usage of smartphones inside the campus because of the study and security purpose. The students using smartphones in the colleges disturbed themselves by lack of concentration and also disturbing others because of their attitudes. Thus the educational institutions are not allowing the students to use their phones in their institutions. But the students are commonly using their smartphones along with their friends. They are very familiar with the updated versions of artificial intelligence. From the study, it is clear that most of the students in professional education are using smartphones for their academic purposes. The majority of students belong to the age group of 18 to 20 years are using smartphones, maybe because of their age factor entertainment ranked first in their uses. The number of students using online financial transactions is high shows that students are more interested to participate in digital India and join their hands to take part in corruption-free economy. Though there are many threats in the use of artificial intelligence, the students are having awareness about the various security features and they are also using these features to secure their money and hide their personal information. Instead of avoiding the smart phones in the colleges, the institutions and the faculty members can guide the students to use artificial intelligence for their knowledge and career development with ethics and morals. The government can also take necessary steps to stop the unethical use of artificial intelligence to avoid threats and cyber crimes.

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