Informatics Institute of Technology

Trends in Computer Science

4COSC008C.2

Coursework II : Portfolio

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Group I

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1.Employability and career planning

Career planning is a long lasting interaction.Proper career planning is the key to choosing a job that will lead to many years of fulfillment and satisfaction.This process has four components.First we have to look into ourselves and understand our skills and strengths.Next we have to explore the job market relevant to our qualifications at the same time identify it properly.At last an action plan should be make to achieve the final target.

In both O/L and A/L I didn't select IT as an additional subject.But I was good in designing and Mathematics.Inorder to take the use of both of the skills I thought of doing Computer Science for my higher studies.where I can use my creative side in to design something using a computer and Mathematical knowledge in architecture.

In level 5, I will select Games and Computer Graphics Development for my optional module. Nowadays the game development side is changing at a high speed and are surely among the effectively developing areas in the worldwide application market.Game development can considerably improve our imagination skills and the ability to produce new things.So I think I will be able to do that more efficiently than either selecting a new field. In level 6 I will select Games and Computer Graphics Development for my optional module.Then I think I'll be able to learn about the Game Development side more.

Inorder to develop my skills,I engaged in a few webinars. These webinars will help you retain facts about how to assess one's own traits, abilities, and interests, which will help you prepare for an entry-level job or a future career. I also participated 2 hackathon. Participating in a hackathon will allow me to gain experience working on a team with people from all backgrounds and opinions. I'll improve my communication abilities and learn how to collaborate effectively with others. In our university, we will be assigned an intern in our third year, which will provide us with numerous opportunities. We all understand that temporary positions can be a great way to gain work experience and expand our company opportunities.

So, when it came to reviewing my career, I basically searched for what I could do with this path. So they state that as a Game Developer, we need to know C++ and Java.

A career plan is essential because it enables me to deal with the path of my career path, the skills and information I'll need, how I'll get them, and how I'll get my dream job. Creating a career plan might help you achieve big goals that previously seemed impossible.

Because this is a computer field, more practice with logical and creative thinking is

required. Aside from that, I need to work on my soft skills. With the level 5 and level 6 option modules that I've chosen, I'll be able to go deeper into the field of game development. I'll work hard till I reach my end goal.

After graduating my degree program, I considered pursuing a master's degree in computer science. I suppose it will be really advantageous to me.. A Master of Science is an important educational tool that people can utilize to improve their understanding and abilities in a science-related field. a field that is founded on innovation I believe I will be able to work for foreign companies and get experience.

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2.Artificial Intelligence

2.1.Introduction AI

Artificial intelligence (AI) is a broad branch of technology that focuses on building intelligent machines that can perform activities that would normally need human intelligence. There are four broad categories of AI or AI-based systems, according to this classification system: reactive machines, limited memory machines, theory of mind, and self-aware AI.

2.2.Impact on Society

Humans are prone to making mistakes and making poor choices. Computers, on the other hand, do not make these errors if they are properly programmed. Artificial intelligence makes decisions based on data that has been obtained previously.

utilizing a certain set of algorithms As a result, misdeeds are decreased, and the possibility of achieving fineness with a first-class degree of exactness is increased. Using AI, for example, the majority of human errors in weather predicting news were minimized.

The objective of artificial intelligence is to supplement human abilities and enable us in making tough choices with far-reaching consequences. That is the solution from a technological standpoint. AI has the potential to enable humans from a philosophical stance. Live more meaningful lives free of hard labor, and manage the intricate network of interconnected individuals, corporations, states, and nations to function in a way that benefits humanity as a whole.

Day-to-day apps which include Apple's Siri, Microsoft's Cortana, and Google's OK Google are routinely used in our day-to-day living, whether it is for browsing for a location, taking a selfie, making a phone decision, answering to a letter, and so on.

Artificial Intelligence (AI) is being used in the development of electronic assistance. Some of the most advanced businesses use electronic assistants to interact with customers, reducing the need for human resources. The advanced associates are also used on many platforms to just provide items that customers require. We can discuss the item we're looking for with them. Some chatbots are designed in such a way that it's difficult to tell whether we're speaking with a bot or a human.

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Despite breaks, an average human will function for four to six hours each day and. People have a natural need to take a break to recharge their batteries and prepare for another day of work, and many have even developed a week-by-week routine to keep their work-life and personal lives separate. In contrast to people, we can use AI to make machines operate 24 hours a day, seven days a week with no pauses and no exhaustion..

2.3.Ethical Questions

AI ethics are rules of beliefs, concepts, and procedures that use widely accepted moral principles to guide moral behavior in the creation and implementation of artificial intelligence technologies.

They're recuperating from a real condition or anything along those lines, but a similar scenario can be abstracted and used in intelligent bombs to track people or by governments to track their citizens as they travel around. Which is a really Orwellian gloomy future? Which we may or may not agree with, therefore we need to figure it out now while we're putting together these AI calculations. What are the prospective consequences that we don't expect that the future good access should AI am consistently? AI needs to run on more crucial and faster machines, and even the single individuals who can direct. Those machines are these gigantic general alliances that accumulate less and less.

2.4.Conclution

Artificial intelligence is a branch of computer science that users can use for days to make a range of jobs easier and more efficient. AI techniques will displace present design procedures and methods in the not-too-distant future. Finally, these methods should only be employed for excellent reasons and the enrichment of humankind. And also,AI has enhanced understanding of intelligence's traits and supplied a diverse variety of usefulness in a multitude of fields. It has improved understanding of human reasoning and the origin of intelligence in general.

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3. Internet of things and its cyber security implications

3.1.Introduction IOT

The Internet of Things (IoT) is the interconnection of physical things that seem to have physics built within their design, capable of interacting with one another and with the outside world. Sometime in the next few years, IoT-based technology will be able to supply advanced levels of services, fundamentally altering how people live their lives.

There are three main components in the Iot technology:

- Low-power embedded systems: when it comes to designing electronic systems, the inverse factors of low battery usage and good performance are crucial.
- Cloud computing: the amount of data acquired by IoT devices is significant, and it should be retained in an unspoiled manner on a dependable storage server. In this situation, cloud computing is advantageous.
- Big data useability: we all presume that the internet is available to us.

3.2.Differences between IOT and Traditional Internet

First and most well-understood similarity between the typical Internet and the IoT is the ownership of the content creator. However, there are a few notable differences.

On the traditional Internet, for contrast, content is consumed by request; to consume it, one must first ask a question, seize evidence, or make a web service request. When a condition of interest is detected in the IoT, content is frequently consumed by sending a notification or triggering an action. In many cases, consuming entails merging data from many sources. Both the conventional Internet and the Internet of Things are affected by this.

The Internet of Things outperforms the Internet in the following ways:

1. It boosts our understanding of orientation and space.

➔ Thanks to the Internet of Things, we also have environmentally conscious sensors quietly collecting data on our world and participating in its improvement. In buildings, for example, this could mean heat, light, and occupancy sensors that collect information and help building owners and

operators create better place and space experiences etc.

2. It strengthens the physical world's visual interest.

➔ According to estimates, Americans now spend nearly 8 hours every day consuming digital media. We will have existed for roughly half of our lives if this rate continues. It promotes the attractive appearance of the external surroundings, according to multiple studies2. Spending so much time online has a serious effect on one's physical and social well-being in the real world.

3.3.Challenges that Internet of Things create for cyber security

There are a plethora of software packages that are created specifically to attack IoT devices, as well as the scheme itself. Malware is the terminology for these types of threats. They cause injury and information larceny without the user's agreement by performing unwanted actions.

Exploit Sequences are a sort of code-based abuse that exploits the advantage of the vulnerabilities to gain access to the system, affecting equipment with a high to severe impact depending on the assets impacted.

Information alteration, message copy, network failure, system or device failures, information filtering, device modification, and so on are examples of other risks.

Malware and ransomware are given additional focus in these cases. With the advent of the Internet of Things, hackers already have access to and administration of everything. Nowadays, there have been cameras all over the place, and then there are hackers.

3.4.Solutions for security challenges in Internet of Things

While the Internet of Things does have a few flaws, we cannot discard it. It has the potential to accomplish a lot of things and make life easier. So, what we should do is try to solve as many minor events as possible. As a result, when it comes to security issues, users should have a great understanding of how to preserve their personal privacy in IOT.

- Implement strong passwords.
- Use your own network to access the internet.

➔ Establish strong passwords.

Eliminate passwords that are generally used, such as "admin," "username123," and so on. Make your decision and develop a strong password, as a password serves as a barrier between your data and the internet, and that barrier or wall must be robust to ensure your information is private.

➔ To surf the network, establish your own network.

Because your smartphone is hooked up to the internet, whenever you use it, try to link to your own private network. If you use public networks to access the internet, you are exposing yourself to a broad virtualized world, and it will be easy to hack your private information.

3.5.Conclusion

It is evident that social Media among Things (IoT) has endless possibilities and has exploded in popularity between all industries. According to Cisco's research, the Internet of Things will grow at a faster rate than any other linked device technology in the next five years. When it comes to integrating IoT systems, businesses have a number of difficulties, but as technology evolves, these hurdles will be overcome.

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