NEWS LETTER

Volume 5 Issue 1

PYTHON DJANGO WORKSHOP

A workshop on python graphics & web development was conducted for S6 CSE students on 3rd & 4th Feb 2017. The sessions were handled by Mr. Dileep G , Senior Project Manager IPSR ltd. Forty four students participated in the workshop . Ms. Neethu George and Ms. Asha Baby were the coordinators for the event. The participants were beginners in Python, so the workshop started with basics of Python, and later got into Python GUI development – Tkinter, Python Graphics – Turtle, Web application concepts and technologies, Python Web development using Django framework. Hands-on sessions were included in the schedule. This was in association with IEEE and ACM. The valedictory function was conducted and the certificates were distributed to the participants

TEDx VJEC - The Butterfly Effect

VJEC proudly hosted its first TEDx event on 14th January 2017.In the spirit of ideas worth spreading, TEDx is a program of local, self-organized events that bring people together to share a TED-like experience The event was hosted under the theme "The Butterfly Effect", which means even the tiniest change in life has some bigger consequences.

The procedure to get the license, issued by the TED organization, to conduct TEDx event was quite complex. The core team has been working hard to get this license for months. After the final Skype interview which happened on November, we finally got the license, and with great enthusiasm we decided to conduct the event on January 14 VJEC happens to be the first institution in Kannur district to get this license. Since this was the first event, we could only include inspiring videos rather than bringing live speakers. The student team was

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VIMAL JYOTHI
Engineering College

Department of Computer science and Engineering

Bi-monthly News Letter
February , 2017

VISION

To contribute to the society through excellence in scientific and knowledge-based education utilizing the potential of computer science and engineering with a deep passion for wisdom, culture and values.

MISSION

To promote all-round growth of an individual by creating futuristic environment that fosters critical thinking, dynamism and innovation to transform them into globally competitive professionals.

To undertake collaborative projects which offer opportunities for long-term interaction with academia and industry.

To develop human potential to its fullest extent so that intellectually capable and optimistic leaders can emerge in a range of professions.

From Page 1 : TEDx VJEC

excited throughout and started the preparation with great team spirit. From stage to the TEDxVJEC website and the Facebook page, students came up with outstanding design that stood up to the TED standard.

Apart from them, a few staff and students of the college also registered for the same. The absence of live speakers was made up for, by the highly inspiring and thought provoking videos. The program was an interactive one and the volunteers handled it very professionally. Recreational activities were arranged for the participants, which included a game session, a flash mob and a few simple programs by the volunteers. Stalls for Nail Art and Photo booth were also setup. The event was wrapped up by evening, with the organizers thanking the participants and being congratulated for their effort.

A feedback wall was erected intended to collect the opinions and views of the students. Their response defied the fact that this was the very first Tedx event hosted by VJEC. They were truly impressed by the choice of videos, the food and facilities, and above all the quality of the entire event. The management was pleased about this and hence the college will now host another Ted event in April 2017. A bigger, better one!

Compiled by **PP RISWANA**- S8 CSE

THE DARK WEB

VISHNU PRADEEP—S4 CSE

Student Corner

What is the Dark Web?

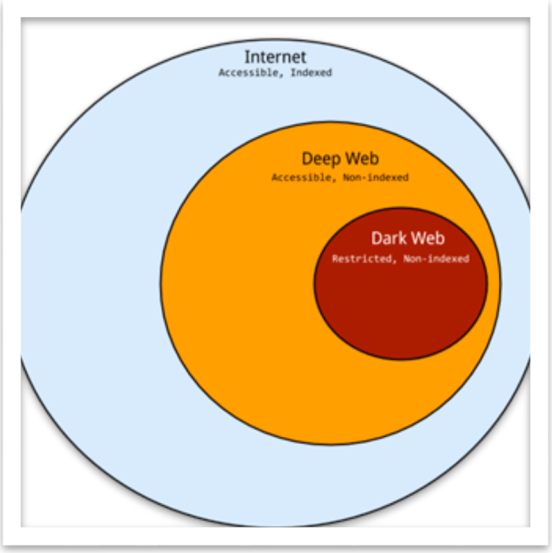
The Dark Web is a term that refers specifically to a collection of websites that exist on an encrypted network and cannot be found by using traditional search engines or visited by using traditional browsers. Almost all sites on the so-called Dark Web hide their identity using the Tor encryption tool. (**Tor** is free software for enabling anonymous communication.)

You can use Tor to spoof your location so it appears you're in a different country to where you're really located. When a website is run through Tor it has much the same effect visit a site on the Dark Web that is using Tor encryption, the web user needs to be using Tor. Just as the end user's IP address is bounced through several layers of encryption to appear to be at another IP address on the Tor network, so is that of the website. So there are several layers of magnitude more secrecy than the already secret act of using Tor to visit a website on the open internet - for both parties.

Thus, sites on the Dark Web can be visited by any web user, but it is very difficult to work out who is behind the sites. And it can be dangerous if you slip up and your identity is discovered.

The Dark Web hit the headlines in August 2015 after it was been reported that 10GB of data stolen from Ashley Madison, a site designed to enable bored spouses to cheat on their partners, was dumped on to the Dark Web. Hackers stole the data and threatened to upload it to the web if the site did not close down, and it has now acted on that threat. Now the spouses of Ashley Madison users have begun to receive blackmail letters demanding them to pay $2500 in Bitcoin or have the infidelity exposed.

In March 2015 the UK government launched a dedicated cybercrime unit to tackle the Dark Web, with a particular focus on cracking down on serious crime rings and child pornography. The National Crime Agency (NCA) and UK intelligence outfit GCHQ are together creating the Joint Operations Cell (JOC).



Difference Between Surface Web, Deep Web And Dark Web

The Internet: This is the easy one. It's the common Internet everyone uses to read news, visit Facebook, and shop. Just consider this the "regular" Internet.

The Deep Web: The deep web is a subset of the Internet that is not indexed by the major search engines. This means that you have to visit those places directly instead of being able to search for them. So there aren't directions to get there, but they're waiting if you have an address. The Deep Web is largely there simply because the Internet is too large for search engines to cover completely. So the Deep Web is the long tail of what's left out.

The Dark Web: The Dark Web (also called Dark net) is a subset of the Deep Web that is not only not indexed, but that also requires something special to be able to access it, e.g., specific proxying software or authentication to gain access. The Dark Web often sits on top of additional subnetworks, such as Tor, I2P, and Freenet, and is often associated with criminal activity of various degrees, including buying and selling drugs, pornography, gambling, etc.

IS IT ILLEGAL TO BE ON THE DARK WEB?

Be careful though, while accessing the **Dark Web** itself is not **illegal**, accessing some of the content within can net you some hefty jail time if caught. We are caught if we happen to pay for illegal or unwanted stuffs which are banned by the authorities like drugs, assassins or view abusive videos.

AKHIL.T S4 CSE

What's awaiting in 2017— Analyzing technologies and trends of 2017

When we step into 2017 there are lots of tech trends which are going to influence our lifestyle in the upcoming years. 2017 will be the year of Internet of Things (IOT) and Automation. Big multinational companies like Apple, Microsoft, Google, Amazon, Facebook etc. are on the way to it by developing different kinds of home automation products and these include self-driving car also. Everyone is expecting the products to be official launched to the people all around the globe in this year.

AR and VR

In the year 2016 July the revolutionary breakthrough in the history of gaming happened. Niantic® launched Pokémon GO, the game that altered the whole gaming trends active on those days. By the introduction of AR (Augmented Reality) in the gaming filed. With this one game the AR and VR (Virtual Reality) become more popular than ever expected. And now the one of the biggest game series Resident Evil 7 has been released with the VR mode of playing. The game is all about fighting with Zombies and killing them. It's a real action game in which lots of horror situations are included. By playing them with VR headsets everyone should be care extremely

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careful because when we play with VR mode the situations may become so real to us and we are much more involved in the game rather than the other modes. Also in the gadgets the AR had made the room for it. ASUS ZenFone AR sees the future of smartphones. The first phone to integrate and Google's Daydream VR and Tango AR, the *ZenFone* AR has all your realities covered.

Digital Assistants

Not only in the gaming & gadget filed, in our life style also technology will have an important role in the year of 2017. People have been anticipating the onset artificial intelligence (AI) for decades, and through it's been around in various forms for the past several years (and even beyond that), we're now bearing witness to the advanced learning systems that may soon come to define our interactions with technology. Digital assistants like Siri (Apple®), Alexa, Cortana (Microsoft®), Google Assistant (Google) which were mocked just a few years ago, now have a stunning ability to recognize and decipher human speech, and Google updates like RankBrain are now able to update themselves, learning from complex user inputs and making automated adjustments. The Amazon Echo was a surprising hit when it first came out, but last year Google turned up the competition by launching Google Assistant and putting it inside its own smart speaker, the Google Home. This year at CES (Consumer Electronics Show), the gloves came off. Google and Amazon are racing to integrate their smart assistants with every gadget in our life. So far, Amazon is winning. Soon, you'll be able to buy a huge array of non-Amazon devices with Alexa build-in, including a $140 speaker from Lenovo, serial off-band 4K TV's, a TRON-like lamp from GE, Ford cars, and a weird robot from LG among the countless others.

If there's a device left in your home that Amazon hasn't put Alexa on, the company at least wants to control it with Alexa commands. You'll soon be able to control Samsung's robot vacuum, DISH's Hopper DVR, and Whirlpool's washers, dryers, refrigerators, and ovens with just your voice. You know, assuming you still have an Echo in ten years when you finally get around to upgrading your refrigerator. Google showed off a smaller version of the same game plan. Google Assistant is coming to Android phones and Android TV, including a new version of the NVIDIA SHIELD TV (and were already impressed with the old version.) Android TV already supports Google's voice commands, but this will allow you to issue commands using "Ok, Google" as long as the remote control can hear you, even if you don't press a button first.

All of this points to one very push in 2017: Smart assistants will be everywhere. Amazon and, to a lesser extent, Google want you to view Alexa and Google as a virtual person that's in every room with you. Just speak out loud and they can help you with everything you need to do. It's an ambitious plan, but it probably has a long way to go before its reality yet. In all these things Voice Control is an essential part. The IOT and Voice Control will develop in tandem. Voice is innately suited to interfacing with devices that are embedded into our environment. Advances in machine learning and natural language processing have already made conventional agents possible. As they grow in sophistication, they will move from the periphery and become a primary interface for IOT devices and networks. In the case of home automation the whole new news is about Facebook's Jarvis, just like the personal assistant in Iron-Man movie. With the help of this personal assistant and internet Mark Z (CEO- Facebook) has designed a prototype of this home automation system.

AI powered Devices

Artificial Intelligence is being implemented in all the devices, even in the cars. Even Google and Apple where working up on this years ago and still trying to bring it in to the markets. The driver less car concept will be a huge breakthrough in automotive industry. Toyota Concept-I puts you at the mercy of the AI. It's an AI-powered car in which, by the way, answers to "Yui" and knows what you want and what mood you're in, and then reacts appropriately. We are expecting these cars will be in market in this year. Google, Apple & BMW etc. will be launching their automated vehicles in this year.

Cyber Attacks on IOT Devices

Whenever a device is connected to the internet there will be security thread about the safety of the device. It's been easy to hack into some devices when they are connected to internet. As we transition to the daily use of more smart devices, such as smartphones, smart cards, smart watches, we anticipate that these platforms will be targeted by hackers since a huge amount of personal data is being stored in these devices. It's important that we understand this now so that we can get out ahead of it to protect the data. When these machines are given with the AI, we should also be careful because we don't want an invasion of Machines on earth like the movie series Terminator says. We must be careful with the AI things and their authorization & permission to different fields.

WHY DEEP LEARNING IS SUDDENLY CHANGING YOUR LIFE?

Over the past four years, there have been quantum leaps in the quality of a wide range of everyday technologies. Most obviously, the speech-recognition functions on our smartphones work much better than they used to. When we use a voice command to call our friends we reach them now.

In fact, we are increasingly interacting with our computers by just talking to them, whether it's Amazon's Alexa, Apple's Siri, Microsoft's Cortana, or the many voice-responsive features of Google. Chinese search giant Baidu says customers have tripled their use of its speech interfaces in the past 18 months.

Then there are the advances in image recognition. The same four companies all have features that let you search or automatically organize collections of photos with no identifying tags. The advances in image recognition extend far beyond cool social apps. Medical startups claim they'll soon be able to use computers to read X-rays, MRIs, and CT scans more rapidly and accurately than radiologists, to diagnose cancer earlier and less invasively, and to accelerate the search for life-saving pharmaceuticals.

But what we don't realize is that all these breakthroughs are, in essence, the same breakthrough. They've all been made possible by a family of artificial intelligence (AI) techniques popularly known as deep learning, though most scientists still prefer to call them by their original academic designation: deep neural networks.

The most remarkable thing about neural nets is that no human being has programmed a computer to perform any of the stunts described above. In fact, no human could. Programmers have, rather, fed the computer a learning algorithm, exposed it to terabytes of data hundreds of thousands of images or years' worth of speech samples to train it, and have then allowed the computer to figure out for itself how to recognize the desired objects, words, or sentences. In short, such computers can now teach themselves.

"You essentially have software for writing software"

Neural nets aren't new. The concept dates back to the 1950s, and many of the key algorithmic breakthroughs occurred in the 1980s and 1990s. What's changed is that today computer scientists have finally harnessed both the vast computational power and the enormous storehouses of data images, video, audio, and text files strewn across the Internet.

Think of deep learning as a subset of a subset. "Artificial intelligence" encompasses a vast range of technologies like traditional logic and rules-based systems that enable computers and robots to solve problems in ways that at least superficially resemble thinking. Deep learning, in that vision, could transform almost any industry.

The greatest impacts of deep learning may well be felt when it is integrated into the whole toolbox of other artificial intelligence techniques in ways that haven't been thought of yet. Google's DeepMind, for instance, has already been accomplishing startling things by combining deep learning with a related technique called reinforcement learning. Using the two, it created AlphaGo, the system that, defeated the champion player of the ancient Chinese game of go widely considered a landmark AI achievement.

As AI evolves, the role of the computer scientist is changing. Sure, the world still needs people who can code software. But increasingly, it also needs people who can train neural networks, a very

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PEO's of Department

I. Graduates will achieve broad and in-depth knowledge of Computer Science and Engineering relating to industrial practices and research to analyze the practical problems and think creatively to generate innovative solutions using appropriate technologies.

II. Graduates will make valid judgment, synthesize information from a range of sources and communicate them in sound ways appropriate to their discipline.

III. Graduates will sustain intellectual curiosity and pursue lifelong learning not only in areas that are relevant to Computer Science, but also that are important to society.

IV. Graduates will adapt to different roles and demonstrate leaderships in global working environment by respecting diversity, professionalism and ethical practices.

Bid Adieu

We the department of CSE bid farewell to our dear colleague Ms. Priyanka Rajeev. During her span of working in Vimaljyothi she worked hard to shine the department's name. She worked hard to make TEDx VJEC a successful event. We wishes her all success in her future life and career.

From Page 3 : Deep learning

different skill that's more about coaxing a result from the data than building something on your own. Companies like Google and Facebook are not only hiring a new kind of talent, but also reeducating their existing employees for this new future—a future where AI will come to define technology in the lives of just about everyone.

Compiled by **Mr. Arjun Govindan** S2 CSE

Inside department

- Mr. Akhil Pauloase , Assistant Professor of Department of computer science and engineering applied for a patent on innovate approach to to extend battery life of smart phones
- Classes for S2 and S4 CSE Commenced on 1st February

POs and PSOs of Department

Engineering Graduates will be able to:

1. **Engineering Knowledge**: Apply the knowledge of mathematics, science, engineering Fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem Analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/ Development of Solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct Investigations of Complex Problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern Tool Usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The Engineer and Society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and Sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and Team Work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project Management and Finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs)

1. An ability to apply development principles to analyze and design complex software and systems containing hardware and software components of varying complexity.

2. An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the trade-offs involved in design choices.

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