

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Date: 23-01-2021

"ONE WEEK ONLINE TRAINING PROGRAM ON AI/ML IN WIRELESS SENSOR NETWORKS"

G. Pullaiah College of Engineering and Technology conducted one-week online training program on "AI/ML IN WIRELESS SENSOR NETWORKS" from 18/01/2021 to 23/01/2021 for the department of Computer Science and Engineering through online mode.

Dr. Rabindranath Bhattacharya was the resource person for the training program. He focused on artificial intelligence techniques as rules and logic-based approach and machine learning approach in the domain of wireless senor networks.

The problems with logic and rules based approach were highlighted and led a way to explore on finding patterns in data and infer rules on their own with the data collected from the sensors. Various supervised, unsupervised and reinforcement learning techniques were considered for discussion. The feature extraction techniques were discussed which help in classification leading to get the output. Dr. Rabindranath being an expert in the area presented with example the training of multilayer perceptron.

Overall, the faculty members expressed satisfaction over the conduct of training program.

PRINCIPAL
G.Pullaiah College of Engg & Tech.
Nandikotkur Road, VENKAYAPALLI
KURNOOL-518 452 (A.P)

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Date: 13-03-2021

"ONE WEEK ONLINE TRAINING PROGRAM ON BIGDATA AND SECURITY"

G. Pullaiah College of Engineering and Technology conducted one-weekonline training program on "BIGDATA AND SECURITY" from 08/03/2021 to 13/03/2021 for the department of Computer Science and Engineering through online mode.

Dr. Rajesh Prasad was the resource person for the training program. Heclarified about the Bigdata security's mission clearly: to keep out on unauthorized users and intrusions with firewalls, strong user authentication, end-user training, and intrusion protection systems (IPS) and intrusion detection systems (IDS). In case someone does gain access, encrypt your data in transit and ensure safety.

Big data sources come from a variety of sources and data types. User-generated data alone can include CRM or ERM data, transactional and database data, and vast amounts of unstructured data such as email messages or social media posts. In addition to this, the whole world of machine-generated data including logs and sensors have become in common. So, there is a need to secure this data in transit, from sources to the platform. Collection of information from different sources was explained to all the participants.

While briefing about the security toolsets Dr. Rajesh highlighted that protecting stored data takes mature security toolsets including encryption at rest, strong user authentication, and intrusion protection and planning. Security toolsets across a distributed cluster platform with many servers and nodes need to be run. In addition, the security tools must protect log files and analytics tools as they operate inside the platform. Also, Bigdata security technologies available currently with the challenges to be addressed were presented.

On the point of who is responsible for Bigdata security, there was a debate. It was concluded by stating that all the stakeholders are equally responsible to ensure that security is maintained. The answer is everyone. IT and InfoSec are responsible for policies, procedures, and security software that effectively

protect the big data deployment against malware and unauthorized user access. Compliance officers mus G.PULLAIAH COLLEGE OF ENGINEERING & TECHNOLOGY

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work closely with this team to protect compliance, such as automatically stripping credit card numbers from results sent to a quality control team. DBAs should work closely with IT and InfoSec to safeguard their databases. Finally, end-users are just as responsible for protecting company data. Ironically, even though many companies use their big data platform to detect intrusion anomalies, that big data platform is just as vulnerable to malware and intrusion as any stored data. One of the simplest ways for attackers to infiltrate networks, including big data platforms, is a simple email. Although most users will know to delete the usual awkward attempts and fake FedEx shipments, some phishing attacks are extremely sophisticated.

Overall, the faculty members expressed satisfaction over the conduct of training program.

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Nandikotkur Road, VENKAYAPALLI
KURNOOL-518 452 (A.P)

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Date: 28-10-2020

"ONE WEEK ONLINE TRAINING PROGRAM ON BLOCKCHAIN AND ITS APPLICATIONS"

G. Pullaiah College of Engineering and Technology in association with Andhra Pradesh State Skill Development Corporation conducted one week workshop on "BLOCKCHAIN AND ITS APPLICATIONS" from 23/10/2020 to 28/10/2020 for the department of Computer Science and Engineering through online mode.

Dr. Madhurima Goswami along with Dr. Mahdi Miraz gave an introduction of blockchain which is essentially a distributed database of records or public ledger of all transactions or digital events that have been executed and shared among participants. Each transaction in the public ledger is verified by consensus of a majority of the participants in the system. And, once entered, information can never be erased. The block chain contains a certain and verifiable record of every single transaction ever made. An expert from the industry, Dr. Mahdi Miraz gave an overall insight of Blockchain and it's applications in various sectors and domains. Considering the money laundering crime as a case study, he presented and oriented the faculty on how to build the blockchain and ensure that the transactions are safe and secure. Dr. Mahdi being a researcher in the field of Blockchain shared his ideas and clarified the doubts of all the faculty members.

Overall, the faculty members expressed satisfaction over the conduct of workshop.

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G.Pullaiah College of Engg & Tech.
Nandikotkur Road, VENKAYAPALLI
KURNOOL-518 452 (A.P)

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DEPARTMENT OF CIVIL ENGINEERING

Date: 30-01-2021

"ONE WEEK ONLINE TRAINING PROGRAM ON CONCRETE DURABILITY AND APPLICATIONS OF WHITE CEMENT"

G. Pullaiah College of Engineering and Technology conducted one-week online training program on "CONCRETE DURABILITY AND APPLICATIONS OF WHITE CEMENT" from 25/01/2021 to 30/01/2021 for the department of Civil Engineering through online mode.

Dr. T. Anil Kumar was the resource person for the training program. He started with explaining the use of white cement in architectural beauty, interior and exterior decorations, floorings. The relation between strength and durability related to the quality of concrete were presented. Durability of concrete may be defined as the ability of concrete to resist weathering action, chemical attack, abrasion and other degradation processes. Durability is not directly related to the strength of concrete. Durability is related to the performance of the concrete. Higher the pores higher the permeability. Higher the permeability lower the Durability. Results of the compressive strength, permeability, and corrosion tests are correlated to assess the durability of different concrete mixtures.

Another resource person Mr. Veerendra Nijampure, Manager, (CTS AP & TS JKCement), had delivered the technical lecture on manufacturing and applications of white cement. White Portland cement is used in combination with white aggregates to produce white concrete for prestige construction projects and decorative work. White concrete usually takes the form of pre-cast cladding panels, since it is not economical to use white cement for structural purposes. White Portland cement is also used in combination with inorganic pigments to produce brightly colored concretes and mortars. Ordinary cement, when used with pigments, produces colors that may be attractive, but are somewhat dull. With white cement, bright reds, yellows and greens can be readily produced. Blue concrete can also be made, at some expense. The pigments may be added at the concrete mixer. Alternatively, to guarantee repeatable color, some manufacturers supply ready-blended colored cements, using white cement as a base. In some countries an off-white clinker, which gives a reflectance value over 70 when ground, is produced at a cost

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only a little over normal gray clinker. When this is blended with ground blast furnaces lag (up to 60% depending on use and early strength) cement with reflectance over 80 can be produced. The blended cement can have a production cost less than General Purpose Portland cement (grey), but normally attracts a margin as it is sold to compete with white Portland cement.

The session was informative, interactive and technically helpful to the faculty members of the department. The tips were given on manufacturing and Applications of white cement with the practical diagrams. The entire program was helpful and all the participants got benefited out of it. The session was wrapped up by interaction between the speaker and the participants.

Overall, the faculty members expressed satisfaction over the conduct of training program.

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Nandikotkur Road, VENKAYAPALLI
KURNOOL-518 452 (A.P)

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DEPARTMENT OF CIVIL ENGINEERING

Date: 16-01-2021

"ONE WEEK ONLINE TRAINING PROGRAM ON ETABS SOFTWARE"

G. Pullaiah College of Engineering and Technology conducted one-weekonline training program on "ETABS SOFTWARE" from 11/01/2021 to 16/01/2021 for the department of Civil Engineering through online mode.

Mr. Gopal Dhott, practicing structural engineer from Nandedwas the resource person for the training program. Hehighlighted that the innovative and revolutionary new ETABS is the ultimate integrated software package for the structural analysis and design of buildings.

During the training he focused that ETABS offers a single user interface to perform modeling, analysis, design, and reporting. There is no limit to the number of model windows, model manipulation views, and data views. The prime topics of discussion were Design of steel frames, concrete frames, concrete slabs, concrete shear walls, composite beams, composite columns and steel joists can be performed based on a variety of US and international design codes.

The trainer presented that ETABS offers a wide range of code-based design features for steel frame, concrete frame, cold form steel, and aluminum frame. The faculty were trained to create some models of structuresusing the software.

Overall, the faculty members expressed satisfaction over the conduct of training program.

PRINCIPAL
G.Pullaiah College of Engg & Tech.
Nandikotkur Road, VENKAYAPALLI
KURNOOL-518 452 (A.P)

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Date: 15-05-2021

"ONE WEEK ONLINE TRAINING PROGRAM ON GREEN ENERGY ELECTRICAL POWER CONVERTER"

G. Pullaiah College of Engineering and Technology conducted one-weekonline training program on "GREEN ENERGY ELECTRICAL POWER CONVERTER" from 10/05/2021 to 15/05/2021 for the department of Electrical and Electronics Engineering through online mode.

Dr. Vikas Gupta, was the resource person for the training program. Hefocused onelectrical power converter system that simultaneously accepts power from a variety of energy sources and converts it for use in the electrical grid system.

He started with saying the availability and use of renewable energy sources, such as solar, geothermal and wind, and their associated harvesting systems increase the need for new power converters that can efficiently convert diverse energy sources to work across modern electrical grid systems. He highlighted that the energy industry shifts toward renewables, engineers are looking to improve systems that feed energy from solar and wind farms to the electric grid. Also, the main feature of the system is the ability to simultaneously accept energy from a variety of sources, including solar panels and wind turbines, and convert it for use in the electrical grid. This sets it apart from current technologies, which are only able to convert electrical input from a single source without sacrificing efficiency. He presented different models which can be used in the area. At the end he explained the integration of AI/ML in the field to extract better outputs.

Overall, the faculty members expressed satisfaction over the conduct of training program.

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Date: 16-01-2021

"ONE WEEK ONLINE TRAINING PROGRAM ON MACHINE LEARNING APPLICATIONS IN POWER SYSTEMS"

G. Pullaiah College of Engineering and Technology conducted one-week online training program on "MACHINE LEARNING APPLICATIONS IN POWER SYSTEMS" from 11/01/2021 to 16/01/2021 for the department of Electrical and Electronics Engineering through online mode.

Dr. Neelshetty K, was the resource person for the training program. He focused on effects of partial shading, P&O MPPT, Incremental and conductance MPPT. And later the effect of ANN in MPPT, Fuzzy in MPPT was discussed.

He presented that in PV systems, the PV output power generated depends on solar irradiance and the ambient temperature. These two factors determine the true Maximum Power Point (MPP). In general, temperature influences the PV output voltage while solar irradiance affects PV output current. Based on the I–V and P–V characteristic curves, there is only one optimum point which delivers the maximum power to the system. In any case, where some parts of PV array are shaded by a nearby tree, chimney, or cloud, partial shading condition would occur. Under partial shading conditions, the shaded region of PV receives less intensity of sunlight as compared to other region. The shaded PV module would absorb a large amount of the electric power that is generated by the non-shaded PV modules. This scenario is called the hot spot problem and can damage PV cells.

To overcome this, a bypass diode is commonly connected in parallel with each PV module in order to provide an alternative path during partial shading, helping to avoid damage of PV module. The integration of machine learning in power systems was explained and presented with each type of machine learning technique and a comparative performance was measured. This laid path to explore more in this area and opened scope to do research for most of the faculty members.

Overall, the faculty members expressed satisfaction over the conduct of training program.

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DEPARTMENT OF CIVIL ENGINEERING

Date: 16-01-2021

"ONE WEEK ONLINE TRAINING PROGRAM ON ETABS SOFTWARE"

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DEPARTMENT OF MECHANICAL ENGINEERING

Date: 13-03-2021

"ONE WEEK ONLINE TRAINING PROGRAM ON THERMAL SWITCH TECHNOLOGY"

G. Pullaiah College of Engineering and Technology conducted one-weekonline training program on "THERMAL SWITCH TECHNOLOGY" from 08/03/2021 to 13/03/2021 for the department of Mechanical Engineering through online mode.

Dr. Siva Kannan, was the resource person for the training program. Hefocused onthe thermal switch technology system explaining on new thermal switch and regulator device for energy applications including battery technologies, electric vehicles, energy storage devices, and space conditioning systems.

He started with presenting the trends currently in the thermal switch technology and then presented the future predicted areas of improvement. Also, he presented his expertise in the area by showing various ways of ability to turn thermal conductance either on or off, inhibiting performance thermal devices, especially in inclement weather conditions.

Overall, the faculty members expressed satisfaction over the conduct of training program.

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KURNOOL-518 452 (A.P)



DEPARTMENT OF ELECTRONICSAND COMMUNICATIONS ENGINEERING

Date: 24-04-2021

"ONE WEEK ONLINE TRAINING PROGRAM ON 5G CELLUALR CAPABILITIES AND IMPLEMENTATION"

G. Pullaiah College of Engineering and Technology conducted one-weekonline training program on "5G CELLUALR CAPABILITIES AND IMPLEMENTATION" from 19/04/2021 to 24/04/2021 for the department of Electronics and Communications Engineering through online mode.

Mr. Somasekhar,an industry expert was the resource person for the training program. Hepresented that all 5G wireless devices in a cell communicate by radio waves with a cellular base station via fixed antennas, over frequency channels assigned by the base station. His training went on by first introducing about the various technologies used in the area focusing on the frequency ranges, massive MIMO, NOMA architecture, and concluded with highlighting the security concerns. Being a current trend as well as having a high demand in the industry the training helped the faculty members to get equipped with the knowledge so that those can be transferred to students.

Various application areas that ITU-R has defined for the enhanced capabilities of 5G were presented and the faculty were trained in those domains. They are Enhanced Mobile Broadband (eMBB), Ultra Reliable Low Latency Communications (URLLC), and Massive Machine Type Communications (mMTC).

Overall, the faculty members expressed satisfaction over the conduct of training program.

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KURNOOL-518 452 (A.P)

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DEPARTMENT OF ELECTRONICSAND COMMUNICATIONS ENGINEERING

Date: 06-02-2021

"ONE WEEK ONLINE TRAINING PROGRAM ON FULL STACK WEB DEVELOPMENT"

G. Pullaiah College of Engineering and Technology conducted one-week online training program on "FULL STACK WEB DEVELOPMENT" from 01/02/2021 to 06/02/2021 for the department of electronics and communications engineering through online mode.

Mr. N. Goutham Reddy, an industry expert was the resource person for the training program. He focused on the purpose and importance to learn full stack web development as it is a current trend as well as has a high demand in software industry so that those can be transferred to students.

An exposure to various technologies such as

- •HTML, CSS, UI & UX, JavaScript, etc.
- Server-side languages such as Java, Python, Node.js, Or Golang, etc.
- Frameworks Express, Spring Boot, Django, etc.
- Along with an understanding of System Design, Data Structures and Algorithms, Databases

The goal of the Full Stack Web Development training was to equip learners with the unique skills they need to build database-backed APIs and web applications. This program enabled the participants to design and build databases for software applications, create and deploy database-backed web APIs, and secure and manage user authentication and access control for an application backend. The faculty also learnt how to deploy a Flask-based web application to the cloud using Docker and Kubernetes.

Overall, the faculty members expressed satisfaction over the conduct of training program.

FRINCIPAL
G.Pullaiah College of Engg & Tech.
Nandikotkur Road, VENKAYAPALLI
KURNOOL-518 452 (A.P)

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