SRI SAIRAM ENGINEERING COLLEGE

DEPARTMENT OF INFORMATION TECHNOLOGY

PROUDLY PRESENTS

TECHSTREAM

2019-2020
Issue 2

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EPITOME OF OUR MISSION

ON BEHALF OF THE COMPLETE DEPARTMENT OF INFORMATION TECHNOLOGY, I TAKE EXTREME PLEASURE AND DELIGHTFULNESS IN PUBLISHING THE" TECHSTREAM" EDITION. OUR E-NEWSLETTER PROPOUND A TRULY PERFECT PLATFORM FOR COLLEGE STUDENTS TO EXPRESS THEIR CURIOSITY ON THRILLING TECHNOLOGIES, IT CURRENT FUNCTIONS AND THE FUTURE DEVELOPMENTS. IT ADDITIONALLY TAKES US ON A JOURNEY THAT HIGHLIGHTS ALL THE HIGHLIGHTS OF THE DEPARTMENT, WHICH INCORPORATES VITAL SPORTS WHICH HAVE TAKEN PLACE, INFORMATION ON STUDIES AND DEVELOPMENT OF OUR IMPROVEMENT AND OUR SPLENDID ACHIEVEMENTS, EVERY OF THE BROTHERHOOD PUPILS IN ADDITION TO OUR OWN. SOME NON-TECHNICAL ARTICLES HAVE ADDITIONALLY BEEN PUBLISHED TO ENTERTAIN AND GROW OUR READERS.

THIS MODEL FOCUSES ON (GENERATION NAME) THAT' THIS GROWING GENERATION INSIDE THE CUTTING-EDGE WORLD .IT AS WELL INCLUDES INFORMATION REGARDING THE GROWING GENERATION THAT ARE CURRENTLY UNDERNEATH DEVELOPMENT. THE EBOOK ALSO INCLUDES THE LIST OF ACHIEVERS CONSEQUENTLY TO HONOUR THEM TO AN EQUAL DEGREE TO ENCOURAGE THEIR PAINTINGS.

WE LAUNCH AN E-NEWSLETTER EACH THREE MONTHS TO INSPIRE THE PAINTINGS OF EACH COLLEGE STUDENT AND FACULTY. I MIGHT ADDITIONALLY LIKE TO THANK OUR UNIVERSITY CONTROL FOR ASSISTING US REMODEL THE IMAGINATIVE AND PRESCIENT OF" MASS" INTO REALITY .

"Technology like art is a soaring exercise of the human imagination"
-Daniel Bell

DEPARTMENT HIGHLIGHTS

THE DEPARTMENT HAS RECEIVED ACADEMIC EXCELLENCE AWARD FOR THE YEAR 2018.

THE DEPARTMENT HAS BAGGED THE BEST INDUSTRY LINKED INSTITUTION AWARD IN THE PRESTIGIOUS AICTE-CII SURVEY OF INDUSTRY-LINKED TECHNICAL INSTITUTIONS.

DEPARTMENT OF INFORMATION TECHNOLOGY SIGNED MOU WITH IT-ITES SECTOR

DEPARTMENT OF INFORMATION TECHNOLOGY HAS ORGANIZED AN INTERNATIONAL SEMINAR ON DESIGN AND INNOVATION.

DEPARTMENT OF INFORMATION TECHNOLOGY HAS ORGANIZED 5 DAYS FACULTY DEVELOPMENT PROGRAMME ON "CLOUD SECURITY AND BLOCK CHAIN TECHNOLOGY" IN ASSOCIATION WITH ISTE .

DEPARTMENT OF INFORMATION TECHNOLOGY ORGANIZED 13 DAYS TRAINING PROGRAM ON "SKILL TRAINING IN TECHNOLOGY AND SOFT SKILLS " IN ASSOCIATION WITH ICT ACADEMY AND CSS CORP.

SPARK PLUGS OF IT

ACHIEVEMENTS CORNER

TECHYUGAM'18

B.KEERTHANA OF 2018 BATCH HAS WON FIRST PRIZE FOR HER PROJECT **MODERN AGRICULTURE AID" IN A STATE LEVEL PROJECT EXPO CUM CONTEST – TECHYUGAM'18** HELD AT VEL TECH MULTI TECH ENGINEERING COLLEGE, CHENNAI.

EXOTICA 2K19

SWATHIKA K OF I YEAR IT HAD BEEN SELECTED FOR THE GOOGLE INTERNSHIP PROGRAMME FOR WOMEN.

BUOYANCI IoT INNOVATION CHALLENGE

MANKALA SWETHA.N, PAVITHRA LAKSHMI S.P & MS.VANMATHI.V HAS WON THIRD PRIZE IN NATIONAL LEVEL PROJECT INNOVATION CHALLENGE 2018 FOR THEIR PROJECT "WEARABLE DEVICE FOR BLINDS - GUIDE TO PICK

IEEE EDUCATION GRANT AWARD

N.SATHAYAMALA, S.SUSHMI THUSHARA AND S.JANANI OF BATCH 2018 HAS WON THIRD PRIZE FOR THEIR PROJECT **AN ELECTRONIC AID FOR VISUALLY IMPAIRED WITH NAVIGATION ASSISTANCE** IN A IEEE PROJECT EXPO 2018 CONDUCTED BY SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA COLLEGE, KANCHEEPURAM ON 14.3.2018.

Deep learning

Deep Learning (or deep structured, or hierarchical learning or deep machine learning) is a branch of Machine Learning which is based on a set of algorithms that attempts to model high level abstractions in data by using a deep graph with multiple processing layers which are composed of multiple non-linear and linear transformations. It is an artificial intelligence (AI) function that imitates the working of the human brain in processing data and creating patterns for use in decision making. Deep learning is a subset of machine learning in artificial intelligence that has networks capable of learning unsupervised from data that is unstructured or unlabeled. Also known as deep neural learning or deep neural network.

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CAPSULE NETWORK

Capsule Neural Network is a machine leaning system used to better model hierarchical relationships. The capsule Neural Network is commonly known as CapsNet. Therefore, it is defined as a neural net architecture that has a profound impact on deep learning. It especially works for computer vision.

"Data really powers everything that we do"

DEEP LEARNING

Capsule Networks Hinton

Geoffrey Hinton was a leading British-Canadian researcher specializing in artificial neural networks. He was one of the first researchers to demonstrate the application of the back propagation algorithm for training multilayer neural networks. This technique has since been widely adopted in the world of artificial intelligence. Capsule Networks Hinton has become extremely popular among researchers across the world.

Advantages of using CapsNets for Deep Learning:

CNNs (convolutional neural networks) is one of the best reasons why Deep Learning is so popular today. Some of the advantages of using CapsNets for Deep Learning:

- CapsNets are capable of generalizing using much less data in contrast to ConvNets which require a large amount of reference data for the training phase
- These never lose information between layers, unlike ConvNets.
- CapsNets can provide the hierarchy of characteristics found, for example, these lips belong to this face. However, the same operation with a ConvNet involves additional components.

Few Shot Learning (FSL):

Few-shot learning (FSL), also referred to as low-shot learning (LSL) in few sources, is a type of machine learning problems where the training dataset contains limited information.

Common practice for machine learning applications is to feed as much data as the model can take. This is because in most machine learning applications feeding more data enables the model to predict better. However, few-shot learning aims to build accurate machine learning

models with less training data. As the dimension of input data is a factor that determines resource costs (e.g., time costs, computational costs etc.), companies can reduce data analysis/machine learning (ML) costs by using few-shot learning.

Importance of Few Shot Learning (FSL):

Test base for learning like human: Humans can spot the difference between handwritten characters after seeing a few examples. However, computers need large amounts of data to classify what they "see" and spot the difference between handwritten characters. Few-shot learning is a test base where computers are expected to learn from few examples like humans.

Learning for rare cases: By using few-shot learning, machines can learn rare cases. For example, when classifying images of animals, a machine learning model trained with few-shot learning techniques can classify an image of a rare species correctly after being exposed to small amount of prior information.

Reducing data collection effort and computational costs: As few-shot learning requires less data to train a model, high costs related to data collection and labelling are eliminated. Low amount of training data means low dimensionality in the training dataset, which can significantly reduce the computational costs.

Applications of Few-shot Learning

Computer Vision: Computer vision explores how computers can gain high-level understanding from digital images or videos. Few-shot learning is used mainly in computer vision to deal with problems

Natural Language Processing: Few-shot learning enables natural language processing applications to complete tasks with few exam-