

# Tech Byte

VOLUME 06 | ISSUE 02

## HIGHLIGHTS

- Dr S N Jagadeesha went for Superannuation on March 31st successfully completing all his responsibilities.
- Dr Chatrapathy K took over the in charge of Head of the department on 31st of March in presence of the principal Dr Chaitanya Kumar M V and all the faculty and staff of CSE.
- Dr Manu A P Published his second book titled "ABC of Hadoop, Docker and Ansible".
- Mr Chetan L S was awarded Ph.D. Degree by VTU for his research Titled "Spatial correlation based power aware event driven image compression in wireless multimedia Sensor Networks."
- Dr Manu A P has successfully completed Comprehensive Viva of Mr Janardhana D R.
- Dr Chetan L S successfully filed a patent on "An IoT and Wireless Sensor Network Based Secure Data Communication for Health Sector" with the patent application number 202141034677A.
- Prof Sunil M E published his work "Kannada Sentiment Analysis using Vectorization and Machine Learning" in International conference on sentimental analysis and deep learning. This work was published by Springer.
- Dr Likewin Thomas and Dr Manu A P received the VGST first installment grant of 12,50,000/-.
- Dr Sunitha B S conducted the industry interaction as a project guide.
- Mrs Nayana K Participated in First Doctoral Symposium (FDS VVCE 2021) Organised by Association for Computing Machinery Student Chapter at VVCE, Mysore.
- A Fun Cricket was organised for the students as a part of a cultural and technical fest.
- Department finally achieved 82% placement and 100% result.

# Online Class EDITION JUNE 2021

### Vision

*To be a leader in providing education with skilled technical knowledge imbibing professional ethics to the students in the field of Computer Science and Engineering*

### Mission

*Imparting quality education to students by ensuring a learning environment through qualified faculty and good infrastructure. Empower students to attain strong technical and ethical skills for a successful career in industry, academics, research and entrepreneurship through active engagement with all the stakeholders.*

# Vibrant CSE Department

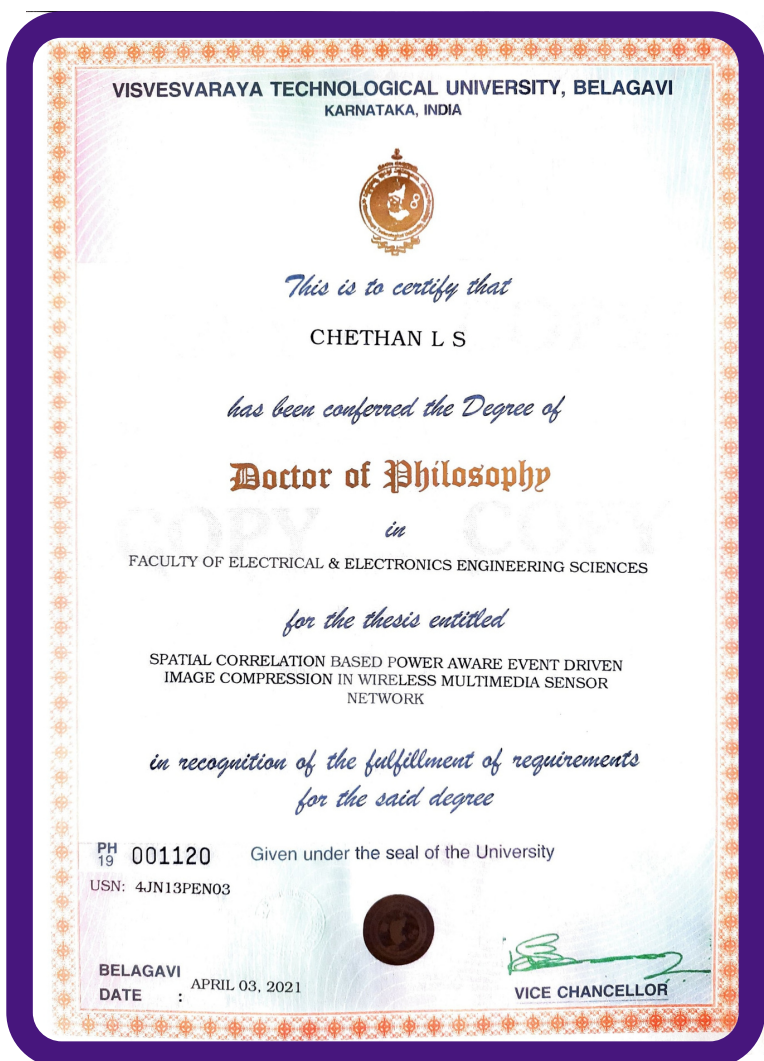
PESITM, SHIVAMOGGA

Computer Science & Engineering department imparts high quality technical education to its students with the help of its state of the art computing facilities and highly qualified teaching and supporting staff. It keeps pace with the latest technological developments and thus helps students stand in good stead in their professional life.

*Mr. Chetan L S was awarded a Ph.D. Degree by VTU for his research Titled "Spatial correlation-based power-aware event-driven image compression in wireless multimedia Sensor Networks."*

## DEPARTMENTAL ACHIEVEMENTS

- Dr. Chatrapathy K took over the in charge of Head of the department on 31st of March in presence of the Principal Dr. Chaitanya Kumar M V and all the faculty and staff of CSE.
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## PSOs

**PSO1:** Interpret the fundamental concepts and methodologies of computer science

**PSO2:** Apply the mathematical concepts to crack problems using suitable mathematical analysis, data structures and algorithms.

**PSO3:** Develop ability to grasp the software development lifecycle and methodologies of software systems. Possess competent skills and knowledge of software design process. Familiarity and practical proficiency with a broad area of programming concepts and provide new ideas and innovations towards research.

## Supperannuation Message



*Dear All*

*During my service as HOD of CSE, we were able to submit NAAC and NBA applications. I was a member of various committees of the institution. We were able to start the IEEE student branch chapter and was able to conduct many student development activities under its banner. During my tenure, we were able to achieve the IEEE student branch award in Mangalore Region and also received financial grants from IEEE MSS and IEEE Bangalore. We hosted IEEE MSS Flagship event I2CONECCT for the first time at PESITM and also hosted a few IEEE MSS Execom meetings. During my tenure, more than 35 industry and academic delegates visited our department. We also started Virtual Lab in association with NITK Surathkal. We were able to promote NPTEL/ Course-era/ Udemey/ EDX courses among the students and also started the CSI Institution chapter. During my tenure, we could see the rise in placement as well as in results. We were able to conduct many Industrial visits and many funded project proposals were submitted from the department. We were successful in getting a 25 Lakh grant from VGST and the work is in progress and we were able to conduct two National Conferences.*

*In these 5 long years of service, I have seen many students growing and becoming successful citizens. I was only the ladder for their Journey and I am now handing over this ladder to Dr. Chatrapathy K and wish him to take forward this department to new heights.*

*I would like to thank all the students for the love and affection shown throughout my career and also express my sincere gratitude to the management of PESITM for making me a part of their family. Finally, I would like to thank all the beautiful staff members of CSE for helping me throughout in bringing glory to the department of CSE, PESITM.*

*I am going to superannuate today on the day of 31st March 2021 and I request you all to keep me in your prayers.*

*Thank you all.*

*Dr. S N Jagadeesha*

## Dr. Manu A P Published his second book titled "ABC of Hadoop, Docker, and Ansible".

The author has got over 24 years of academic, research as well as industry expertise in the diversified field. And, took nearly two years in authoring this book. The author tried to exhibit a maximum level of technical competence and knowledge to share with others.

This book also helps in cracking global certification exams like CompTIA N+, RHCSA, RHCE, Red Hat OpenStack, and many more, which is necessary for the System/Network administrator.

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### ABOUT THE BOOK

Numerous such technical books are available in the market, but the specialty of this book rests in Mastering Linux servers without anybody's help in just 28 days. And also getting fundamentals sound through hands-on expertise.

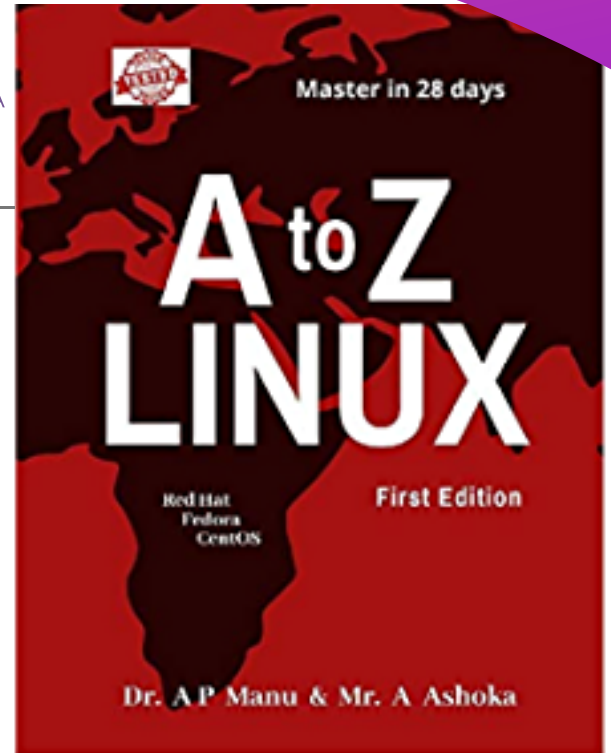
The "A to Z Linux" book written especially for novices who want to get into the corporate world/higher education/having an urge to study. Anybody who operates a computer can start this book directly. The content of this book is practically tested and found working satisfactorily on CentOS 7 & 8. The same also works for Fedora and Red Hat OS.

The name 'A to Z' specifies the spread of technology from old to most advanced ones, such as launching your application on the Cloud. Some possible difficulties that are usually faced by people envisioned and attempted to give a solution in a simple and understandable way. Hence the book starts with setting up of own lab using crimping; to verify the functionality, configuring 14+ different well-known servers such as NFS, FTP, NTP, HTTP, DNS, Mail, DHCP, Samba, MySQL. Finally setting OpenStack Cloud and its application.

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### ABC OF HADOOP, DOCKER & ANSIBLE

The book titled "ABC of Hadoop, Docker & Ansible" covers all the essential skills needed for a Linux Systems Engineer/Administrator. Comprehensive research made while authoring the book, keeping in mind all the essential skills required for a fresher to get a job in the IT industry and also covers the advanced topics specific to the most in-demand skills like Hadoop, Docker, and Ansible. Besides covering the basics, the authors also delved into the tools DevOps such as Docker, and Ansible, which makes the book very special.



### About the Author

The book titled "ABC of Hadoop, Docker & Ansible" covers all the essential skills needed for a Linux Systems Engineer/Administrator. Comprehensive research made while authoring the book, keeping in mind all the essential skills required for a fresher to get a job in the IT industry and also covers the advanced topics specific to the most in-demand skills like Hadoop, Docker, and Ansible. Besides covering the basics, the authors also delved into the tools DevOps such as Docker, and Ansible, which makes the book very special.

**Dr Manu A P has successfully completed  
Comprehensive Viva of Mr Janardhana D R.**

## ABOUT THE PATENT

Dr Chetan L S successfully filed a patent on "An IoT and Wireless Sensor Network Based Secure Data Communication for Health Sector" with the patent application number 202141034677A.

(54) Title of the invention : AN IOT AND WIRELESS SENSOR NETWORK BASED SECURE DATA COMMUNICATION FOR HEALTH SECTOR

(51) International classification	:H04W0084180000, G06Q0050220000, G16H0010600000, H04W0004700000, A61B0005000000	(71)Name of Applicant : <b>1)Dr. Ganesh D R</b> Address of Applicant :Assistant Professor, Department of Information Science and Engineering, CMR INSTITUTE OF TECHNOLOGY, BENGALURU 560037 Karnataka India <b>2)Mr. Chithambarathanu M</b> <b>3)Dr. Varalatchoumy M</b> <b>4)Mr. Sreenidhi B.K</b> <b>5)Dr. Chethan L S</b>
(31) Priority Document No	:NA	(72)Name of Inventor : <b>1)Dr. Ganesh D R</b> <b>2)Mr. Chithambarathanu M</b> <b>3)Dr. Varalatchoumy M</b> <b>4)Mr. Sreenidhi B.K</b> <b>5)Dr. Chethan L S</b>
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(86) International Application No	:NA	
Filing Date	:NA	
(87) International Publication No	: NA	
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :

The Internet of things (IoT) is gaining popularity in many sectors due to its autonomous sensor operations at the lowest possible cost. In medical and healthcare applications, IoT devices form an ecosystem to sense patients' medical problems such as blood pressure, oxygen level, heartbeat, temperature, and so on, and to take appropriate emergency actions. It is used to transfer patient healthcare-related data to remote users and medical centers for post-analysis. Various systems have been presented to monitor a patient's medical state utilizing Wireless Body Area Network (WBAN) based on low-powered biosensor nodes; nevertheless, preventing increased energy consumption and communication costs are demanding and intriguing concerns. The problem of imbalanced energy consumption among biosensor nodes impairs the timely distribution of patient information to remote centers and has a detrimental influence on the medical system. Furthermore, the patient's sensitive data is being transmitted via an insecure Internet exposed to security risks. As a result, another difficulty in this challenge for medical applications is data privacy and integrity from hostile traffic. This innovation article aims to propose a secure and energy-efficient framework using the Internet of Medical Things (IoMT) for e-healthcare, whose primary goal is to secure data communication with IoT and wireless sensor network (WSN) and reduce communication overhead and energy consumption between biosensors while conveniently transmitting healthcare data, while also protecting patients' medical data from unauthorized access.

No. of Pages : 23 No. of Claims : 4

## About the Author

Dr Chetan L S, is serving as Assistant Professor in the department of CSE since July 2013. He joined PESITM Shivamogga with MTech in Computer Science and then he joined for Ph.D., under Dr. Manjunath P, (current in-charge principal of JNNCE) in the department of E&C, JNNCE Research Center. He defended his thesis on 10th Feb 2021 and was awarded Ph.D. from VTU on 3rd April 2021.

During these 9 years of his experience in PESITM, he served as Criteria 2 NBA Coordinator, received a patent, received one KSCST funded project, guided many IoT based societal projects, published many international conference and journal papers, coordinated towards technical and cultural fests, conducted workshops, was invited as keynote speakers, judged many technical events, served as project and technical seminar coordinator and currently he is serving as the Faculty in-charge of BVOC in IoT.



Government of Karnataka

**VISION GROUP ON SCIENCE AND TECHNOLOGY**

Department of Information Technology, Biotechnology and Science and Technology



# **VGST Funded Project**

25 Lakh Rs Under CISEE Scheme



Dr Likewin Thomas and Dr Manu A P received the VGST first installment grant of 12,50,000/-.

## **Facial Attendance System, Emotion Recognition and Interest/ Disinterest Recognition**

Artificial intelligence evolved into a powerful tool that enables machines to think and act like humans. It includes Machine Learning and Deep Learning as its sub-fields. Machine learning is the study of computer algorithms that improve automatically through experience and by the use of data, whereas Deep Learning imitates the workings of the human brain in processing data and creating patterns for use in decision making. Cameras are becoming the norm of monitoring all the actives related to security, scientific observations, and entertainment filters. This led to the emergence of Computer Vision.

Today, computer vision is one of the hottest subfields of artificial intelligence and machine learning, for its wide variety of applications and tremendous potential. Its goal is to replicating parts of the complexity of the human visual system and enabling computers to identify and process objects in images and videos in the same way that humans do. Some of its applications are Multiple- face recognition, Facial Emotion Recognition, and Affect Recognition. Determining the effect state of students to understand how well contents are delivered and how the students are receiving is the biggest challenge for teachers and researchers.

By considering factors like head pose, facial expression, drowsiness detection, and noise level estimation machine will be able to interpret affect state. Facial Emotion plays a very important role in communication by expressing innermost thoughts. There are seven basic human emotions namely happy, sad, neutral, contempt, disgust, fear, and surprise. With the help of some appropriate algorithms, human facial emotions can be identified. The attendance management system nowadays has become very important to every single organization.

We know that in all colleges and schools daily attendance marking is an important and common activity for observing the performance of students on the daily basis. Smart Attendance system technologies with the help of real-time face recognition are a basic real-world solution for the day-to-day activities of student attendance systems. In this project, we are trying to solve three major problems that teacher's face in the physical classroom i.e, taking attendance, identifying facial emotion, and looking after the attentiveness of the class

## Research Publication in Springer

### Kannada Sentiment Analysis using Vectorization and Machine Learning

*International conference  
on sentimental analysis  
and deep learning*

#### Prof Sunil M E

The Sentiment Analysis (SA) also known as opinion mining (OM) is a new arena in text mining and NLP field. We are presenting a method to analyze the IMDB movie reviews translated to Kannada using Google Translator along with other reviews collected from various credible sites like vijayakarnataka, gadgetloka, and filmibeats. In sentiment analysis many researches have been carried out on English text. Methods and resources of English may not produce good results for other languages. In this paper, we are analyzing around 50,034 of reviews with positive and negative labels. Our ensemble classification technique using various vectorization has achieved the accuracy of 89% .



### **A Fun Cricket was organised for the students as a part of a cultural and technical fest.**

The funny cricket game was organized by the computer science department for students of all branches. This contest was organized to encourage all students to stay active after lockdown. Lockdown resulted in stay-at-home and isolation led people to rely on online entertainment. The purpose of the contest is to keep all the students active physically.



## Department of Computer Science & Engineering PES Institute of Technology & Management

### CALL FOR NEWSLETTER

- Articles for future edition are important.
- We would like to invite everybody to submit a short story/article/announcement that can fit in the following structure:
- News items and announcements - (1/2 Page)
- Short, topical, news oriented technical/ non-technical topics. (3/4 Page)
- Paintings, sketches, comics, poems, dag-writings, short stories etc. (1/2 Page)
- Major and minor technical articles are also accepted. (1/2 Page)
- Jokes, Punch dialogues, quotes of your own could be included. (1/4 Page)
- All of above said matters could be accepted in English or in Kannada

### EDITORIAL TEAM

Dr. Chatrapthy K., Dr. Likewin Thomas, Mr. Raghavendra K, Mr. Ranjan V, Mr Devraj