DADI INSTITUTE OF ENGINEERING & TECHNOLOGY

An Autonomous Institute

Approved by AICTE& Permanently affiliated to JNTU GV

Accredited by NAAC with 'A' Grade and Inclusion u/s 2(f) & 12(B) of UGC Act

An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Institute.

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I-I DR-23

Mathematical Foundations of Computer Science

- To apply the basic rules and theorems of probability theory such as Baye's Theorem, to determine probabilities that help to solve engineering problems and to determine the expectation and variance of a random variable from its distribution.
- Able to perform and analyze of sampling, means, proportions, variances and estimates the maximum likelihood based on population parameters.
- To learn how to formulate and test hypotheses about sample means, variances and proportions and to draw conclusions based on the results of statistical tests.
- Design various ciphers using number theory. •
- Apply graph theory for real time problems like network routing problem

Advanced Data Structures & Algorithms

- Ability to write and analyze algorithms for algorithm correctness and efficiency
- Master a variety of advanced abstract data type (ADT) and data structures and their Implementation
- Demonstrate various searching, sorting and hash techniques and be able to apply and solve problems of real life
- Design and implement variety of data structures including linked lists, binary trees, heaps, graphs and search trees
- Ability to compare various search trees and find solutions for IT related problems

Big Data Analytics

- Illustrate on big data and its use cases from selected business domains.
- Interpret and summarize on NoSQL, Cassandra
- Analyze the HADOOP and Map Reduce technologies associated with big data analytics and explore on Big Data applications Using Hive.
- Make use of Apache Spark, RDDs etc.to work with datasets.
- Assess realtime processing with Spark Streaming.

Internet of Things

- Summarize on the term 'internet of things' indifferent contexts. .
- Analyze various protocols for IoT.
- Design a Po Co fan IoT system using Rasperry Pi/Arduino
- Apply data analytics and use cloud offerings related to IoT
- Analyze applications of IoT in real times cenario

Research Methodology and IPR

- Identify and formulate a research problem by understanding its sources, scope, objectives, and the characteristics of a good research problem.

- Conduct effective literature review, maintain research ethics, and develop technical documents such as research proposals, reports, and presentations.

- Explain the nature and types of Intellectual Property Rights (IPR) and understand the process of patenting and international cooperation on IPR.

- Analyze the scope of patent rights, licensing, technology transfer, and utilize patent information and databases effectively.

- Evaluate recent developments in IPR, including patents related to biological systems, software, and traditional knowledge through relevant case studies.

Advanced Data Structures & Algorithms Lab

- Identify classes, objects, members of a class and relationships among them needed for a specific problem.
- Examine algorithms performance using Prior analysis and asymptotic notations.
- Organize and apply to solve the complex problems using advanced data structures (like arrays, stacks, queues, linked lists, graphs and trees.)
- Apply and analyze functions of Dictionary

Advanced Computing Lab

- The student should have hands on experience in using various sensors like temperature, humidity, smoke, light, etc. and should be able to use control web camera, network, and relays connected to the Pi.
- Development and use of s IoT technology in Societal and Industrial Applications.
- Skills to undertake high quality academic and industrial research in Sensors and IoT
- To classify Real World IoT Design Constraints, Industrial Automation in IoT

I-II (DR23)

Machine Learning

- Domain Knowledge for Productive use of Machine Learning and Diversity of Data.
- Demonstrate on Supervised and Computational Learning
- Analyze on Statistics in learning techniques and Logistic Regression
- Illustrate on Support Vector Machines and Perceptron Algorithm
- Design a Multilayer Perceptron Networks and classification of decision tree

Mean Stack Technologies

- Identify the Basic Concepts of Web & Markup Languages
- Develop web Applications using Scripting Languages & Frameworks.
- Make use of Express JS and Node JS frameworks
- Illustrate the uses of web services concepts like restful, react js.
- Adapt to Deployment Techniques & Working with cloud platform.

Advanced Databases and Mining

- Analyze on normalization techniques.
- Elaborate on concurrency control techniques and query optimization.
- Summarize the concepts of data mining, data warehousing and data preprocessing strategies.
- Apply data mining algorithms.
- Assess various classification & cluster techniques.

Cloud Computing

- Interpret the key dimensions of the challenge of Cloud Computing.
- Examine the economics, financial, and technological implications for selecting cloud computing for own organization.
- Assessing the financial, technological, and organizational capacity of employer's for actively
  initiating and installing cloud-based applications
- Evaluate own organizations' needs for capacity building and training in cloud computing-related IT areas.
- To Illustrate Virtualization for Data-Center Automation.

Machine Learning with Python Lab

- Implement procedures for the machine learning algorithms
- Design Python programs for various Learning algorithms
- Apply appropriate data sets to the Machine Learning algorithms
- Identify and apply Machine Learning algorithms to solve real world problems

Mean Stack Technologies Lab

- Identify the Basic Concepts of Web & Markup Languages.
- Develop web Applications using Scripting Languages & Frameworks.
- Creating & Running Applications using JSP libraries.
- Creating Our First Controller Working with and Displaying in Angular Js and Nested Forms with ng-form.
- Working with the Files in React JS and Constructing Elements with Data

II-I (DR23)

Social Network Analysis

- Demonstrate social network analysis and measures.
- Analyze random graph models and navigate social networks data
- Apply the network topology and Visualization tools
- Analyze the experiment with small world models and clustering models
- Compare the application driven virtual communities from social network Structure.

Industrial Safety

- Understand the general industrial requirements like lighting, cleanliness prevention from hazards and accidents.
- Analyze maintenance requirements of the industry and cost associated.
- Analyze wear and corrosion aspects of the industry and their prevention.
- Identify the faults prone areas and their repair and periodic maintenance.

II-II (DR23)

DISSERTATION PHASE – I AND PHASE – II

- Ability to synthesize knowledge and skills previously gained and applied to an in-depth study
  and execution of new technical problem.
- Capable to select from different methodologies, methods and forms of analysis to produce a
  suitable research design, and justify their design
- Ability to present the findings of their technical solution in a written report
- Presenting the work in International/ National conference or reputed journals.

DIET

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