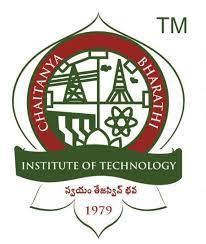
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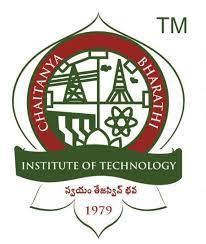
***LABORATORY RECORD***

**NAME**: *G Ragul* **ROLL NO**: *160120733106*

**BRANCH & SECTION**: *CSE & CSE2*  **ACADEMIC YEAR**: *2023-2024*

**CLASS & SEMESTER***: BE 4th year, VII* **COURSE WITH CODE**: *20CSE30*

**DEPARTMENT**: *Computer Science and Engineering.*



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***Certificate***

*Certified that this is the bonafide record of the practical work done by the candidate Mr / Ms.* **G Ragul** *Roll No:* **160120733106** *of Program* ***BE*** *Section* ***II*** *Semester* ***VII*** *in the Laboratory course with Code* ***20CSE30*** *During the academic year* ***2023-2024.***

Total Number of Experiments prescribed: 15

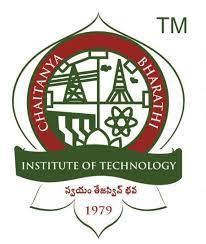
Total Number of Experiments done: 14

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| **Signature of the Faculty** | **HoD** |



Semester End Examination held on………………………

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| **Internal Examiner** | **External Examiner** |



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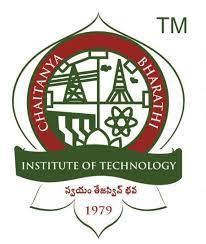
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| ***Vision of Institute***  To be the Centre of Excellence in Technical Education and Research. |
| ***Mission of Institute***  To address the Emerging needs through Quality Technical Education and Advanced Research. |
| ***Quality Policy***  CBIT imparts value based Technical Education and Training to meet the requirements of students, Industry, Trade/ Profession, Research and Development Organizations for Self-sustained growth of Society. |



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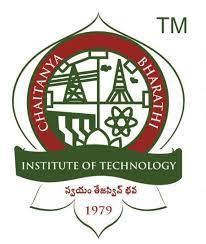
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| ***Vision of the Department***  To be in the frontiers of Computer Science and Engineering with academic excellence and Research. |
| ***Mission of the Department***  The mission of the Computer Science and Engineering Department is to:   1. Educate students with the best practices of Computer Science by integrating the latest research into the curriculum 2. Develop professionals with sound knowledge in theory and practice of Computer Science and Engineering 3. Facilitate the development of academia-industry collaboration and societal outreach programs 4. Prepare students for full and ethical participation in a diverse society and encourage lifelong learning |
| ***Program Educational Objectives (PEOs)***  After the completion of the program, our:   1. Graduates will apply their knowledge and skills to succeed in their careers and/or obtain advanced degrees, provide solutions as entrepreneurs 2. Graduates will creatively solve problems, communicate effectively, and successfully function in multi-disciplinary teams with superior work ethics and values 3. Graduates will apply principles and practices of Computer Science, mathematics, and science to successfully complete hardware and/or software-related engineering projects to meet customer business objectives 4. Graduates will have the ability to adapt, contribute, innovates modern technologies and systems in the domain of Cyber Security, IoT or productively engage in research |



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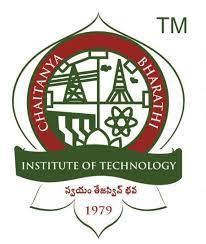
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| ***Program Outcomes (POs)*** |
| **PO1**. Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems |
| **PO2**. Identify, formulate, review of research literature, and analyses complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering scien sciences |
| **PO3**.Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations |
| **PO4**.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 |
| **PO5**. Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities, with an understanding of the limitations |
| **PO6.**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 |
| **PO7**. Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development |
| **PO8**.Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings |
| **PO9**. Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice |
| **PO10**.Communicate effectively on complex engineering activities with the engineering community and with the 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 |
| **PO11**.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 |
| **PO12**. 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)*** |
| **PSO1**. Able to acquire the practical competency through emerging technologies and open-source platforms related to the areas of Cyber Security, IoT, and Block chain |
| **PSO2**. Able to assess the hardware and software aspects necessary for the development of solutions to secure critical IT infrastructure and prepare collaborative plans for any incidence response |
| **PSO3**. Able to provide diversified solutions in product development by adhering to ethical values for the benefit of society |

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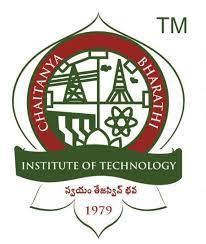
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| ***Name of the Laboratory Course with Code:***  Deep Learning Lab-20CSE30 | | | | | | | | | | | | | | |
| ***Course Outcomes (COs) :***  CO1. Implement various learning models.  CO2. Design and develop various Neural Network Architectures.  CO3. Analyze various Optimization and Regularizations techniques of  Deep learning.  CO4. Analyze various pre trained models using Convolution  Neural Networks.  CO5. Ability to apply RNN techniques to solve different applications.  CO6. Evaluate the Performance of different models of Deep learning  Networks. | | | | | | | | | | | | | | |
| ***CO-PO/PSO Articulation Matrix:*** | | | | | | | | | | | | | | | |  |
|  | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | | PSO3 |
| CO1 | ***2*** | ***2*** | ***2*** | ***2*** | ***2*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***2*** | ***2*** | | ***-*** |
| CO2 | ***3*** | ***3*** | ***3*** | ***3*** | ***3*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***2*** | ***2*** | ***3*** | ***3*** | | ***-*** |
| CO3 | ***3*** | ***3*** | ***3*** | ***3*** | ***3*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***2*** | ***2*** | ***3*** | ***3*** | | ***-*** |
| CO4 | ***3*** | ***3*** | ***2*** | ***2*** | ***3*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***2*** | ***2*** | ***3*** | ***2*** | | ***-*** |
| CO5 | ***3*** | ***3*** | ***3*** | ***3*** | ***3*** | ***-*** | ***-*** | ***2*** | ***2*** | ***-*** | ***2*** | ***2*** | ***3*** | ***3*** | | ***-*** |
| CO6 | ***3*** | ***3*** | ***3*** | ***3*** | ***3*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***2*** | ***2*** | ***3*** | ***3*** | | ***-*** |



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**INDEX**

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| --- | --- | --- | --- | --- | --- | --- |
| **Exp.**  **No** | **Name of the Experiment** | **Date of Experiment** | **Date of Submission** | **Page No.** | **Record Marks/Grade** | **Signature of Faculty** |
| **1.** | Implementation of Classification with Multilayer Perceptron using Sckit-learn (MNIST Dataset) | 25-07-23 |  |  |  |  |
| **2.** | Understanding of Deep learning Packages Basics: Tensorflow, Keras, Theano and PyTorch. | 08-08-23 |  |  |  |  |
| **3.** | Improve the performance of Deep learning models with Hyper-Parameter Tuning. | 29-08-23 |  |  |  |  |
| **4.** | IIlustrate the performance of various Optimization techniques of Gradient Descent(GD), Momentum Based GD, Nesterov Accelerated GD, Stochastic GD, AdaGrad, RMSProp, Adam | 05-09-23 |  |  |  |  |
| **5.** | Implementing of Denoising, sparse and contractive autoencoders. |  |  |  |  |  |
| **6.** | Evaluating the performance of the model using various Regularization Techniques. |  |  |  |  |  |
| **7.** | Train a Deep Learning model to classify a given image using pretrained model of AlexNet,ZF-Net,VGGnet,GoogleNet,ResNet. |  |  |  |  |  |
| **8.** | Implement of Deep learning model using guided backpropagation. |  |  |  |  |  |
| **9.** | Implementation of language Modelling using RNN |  |  |  |  |  |
| **10.** | Implementation of Encoder Decoder Models |  |  |  |  |  |