COURSE OBJECTIVES:

- To understand the basic concepts of learning and decision trees.
- To understand the neural networks and genetic algorithms.
- To understand the Bayesian techniques.
- To understand the instant based learning.
- To understand the analytical learning and reinforced learning.

TOPICS:

MODULE I
INTRODUCTION, CONCEPT LEARNING AND DECISION TREES

10 Hrs

MODULE II
NEURAL NETWORKS AND GENETIC ALGORITHMS

10 Hrs

MODULE III
BAYESIAN AND COMPUTATIONAL LEARNING

10 Hrs

MODULE IV
INSTANT BASED LEARNING AND LEARNING SET OF RULES

10 Hrs

MODULE V
ANALYTICAL LEARNING AND REINFORCED LEARNING

10 Hrs
IV Sem M.TECH (CSE)

LABORATORY WORK
(The following tasks can be implemented in a language of your choice or any tools available)

1) Implement the CANDIDATE – ELIMINATION algorithm. Show how it is used to learn from training examples and hypothesize new instances in Version Space.
2) Implement the FIND–S algorithm. Show how it can be used to classify new instances of target concepts. Run the experiments to deduce instances and hypothesis consistently.
3) Implement the ID3 algorithm for learning Boolean–valued functions for classifying the training examples by searching through the space of a Decision Tree.
4) Design and implement the Back-propagation algorithm by applying it to a learning task involving an application like FACE RECOGNITION.
5) Design and implement Naïve Bayes Algorithm for learning and classifying TEXT DOCUMENTS.

COURSE OUTCOMES:
On Completion of the course, the students will be able to
- Choose the learning techniques with this basic knowledge.
- Apply effectively neural networks and genetic algorithms for appropriate applications.
- Apply bayesian techniques and derive effectively learning rules.
- Choose and differentiate reinforcement and analytical learning techniques

TEXT BOOK:

REFERENCES:
Course Objectives:
- To review image processing techniques for computer vision
- To understand shape and region analysis
- To understand Hough Transform and its applications to detect lines, circles, ellipses
- To understand three-dimensional image analysis techniques
- To understand motion analysis
- To study some applications of computer vision algorithms

TOPICS:

MODULE I

10 Hours

MODULE II

10 Hours

MODULE III

10 Hours

MODULE IV
IV Sem M.TECH (CSE)

Problem, Linear Dynamic Models, Kalman Filtering, Data Association, Applications and Examples.  

10 Hours

MODULE V


10 Hours

Course Outcomes:
Upon completion of the course, the students will be able to
- Implement fundamental image processing techniques required for computer vision
- Perform shape analysis
- Implement boundary tracking techniques
- Apply chain codes and other region descriptors
- Apply Hough Transform for line, circle, and ellipse detections.
- Apply 3D vision techniques.
- Implement motion related techniques.
- Develop applications using computer vision techniques.

TEXT BOOKS


REFERENCES:

Course Title: Business Intelligence And Its Applications  
Course Code: 14SCS422  
Credits(L:T:P): 4:0:0  
Core/Elective: Elective  
Type of Course: Lecture  
Total Contact Hours: 50 Hrs

Course Objectives:
- To Implement the key elements of a successful business intelligence (BI) program
- To Apply a BI meta model that turns outcomes into actions
- To Extract and transform data from an operational data to a data business data
- To Exploit business analytics and performance measurement tools

TOPICS:

MODULE I

10 Hours

MODULE II
Managing The BI Project, Defining And Planning The BI Project, Project Planning Activities, Roles And Risks Involved In These Activities, General Business Requirement, Project Specific Requirements, Interviewing Process

10 Hours

MODULE III
Differences in Database Design Philosophies, Logical Database Design, Physical Database Design, Activities, Roles And Risks Involved In These Activities, Incremental Rollout, Security Management, Database Backup And Recovery

10 Hours

MODULE IV

10 Hours

MODULE V
Business View of Information technology Applications: Business Enterprise excellence, Key purpose of using IT, Type of digital data, basics f enterprise reporting, BI road ahead.
IV Sem M.TECH (CSE)

10 Hours

Course Outcomes:
Upon completion of the course, the students will be able to
- know the complete life cycle of BI/Analytical development
- Understand the technology and processes associated with Business Intelligence framework
- Given a business scenario, identify the metrics, indicators and make recommendations to achieve the business goal.

Text Books:
1. Larissa T Moss and ShakuAtre – Business Intelligence Roadmap : The Complete Project Lifecycle for Decision Support Applications, Addison Wesley Information Technology Series

Reference Books:
3. David Loshin - Business Intelligence: The Savvy Manager's Guide, Publisher: Morgan Kaufmann
5. Lynn Langit - Foundations of SQL Server 2005 Business Intelligence –Apress

Course Title: Agile Technologies  Course Code: 14SCS423  Credits(L:T:P):4:0:0  Core/Elective: Elective  Type of Course: Lecture  Total Contact Hours: 50 Hrs

COURSE OBJECTIVES

- To understand how an iterative, incremental development process leads to faster delivery of more useful software
- To understand the essence of agile development methods
- To understand the principles and practices of extreme programming
- To understand the roles of prototyping in the software process
- To understand the concept of Mastering Agility

TOPICS:

MODULE I
Why Agile?: Understanding Success, Beyond Deadlines, The Importance of Organizational Success, Enter Agility, How to Be Agile?: Agile Methods, Don’t Make Your Own Method, The Road to Mastery, Find a Mentor  10 Hours

MODULE II
Understanding XP: The XP Lifecycle, The XP Team, XP Concepts, Adopting XP: Is XP Right for Us?, Go!, Assess Your Agility  10 Hours

MODULE III
Practicing XP:

MODULE IV
Mastering Agility
IV Sem M.TECH (CSE)

MODULE V

10 Hours

COURSE OUTCOMES
Students should be able to
- Understand The XP Lifecycle, XP Concepts, Adopting XP
- Work on Pair Programming, Root-Cause Analysis, Retrospectives, Planning, Incremental Requirements, Customer Tests
- Implement Concepts to Eliminate Waste

Text Books:
1. The Art of Agile Development (Pragmatic guide to agile software development), James shore, Chromatic, O'Reilly Media, Shroff Publishers & Distributors, 2007

Reference Books:
IV Sem M.TECH (CSE)


Course Title: Wireless Networks And Mobile Computing
Course Code: 14SCS424
Credits(L:T:P):4:0:0 Core/Elective: Elective
Type of Course: Lecture Total Contact Hours: 50 Hrs

COURSE OBJECTIVES

- To introduce the concepts of wireless communication.
- To understand various propagation methods, Channel models, capacity calculations multiple antennas and multiple user techniques used in the mobile communication.
- To understand CDMA, GSM, Mobile IP, WiMax
- To understand Different Mobile OS
- To learn various Markup Languages
- CDC, CLDC, MIDP: Programming for CLDC, MIDlet model and security concerns

TOPICS:

MODULE I

10 Hours

MODULE II

10 Hours

MODULE III
IV Sem M.TECH (CSE)

Need analysis phase, Design phase, Implementation and Testing phase, Deployment phase, Development Tools, Device Emulators. 10 Hours

MODULE IV
Building, Mobile Internet Applications: Thin client: Architecture, the client, Middleware, messaging Servers, Processing a Wireless request, Wireless Applications Protocol (WAP) Overview, Wireless Languages: Markup Languages, HDML, WML, HTML, cHTML, XHTML, VoiceXML. 10 Hours

MODULE V
J2ME: Introduction, CDC, CLDC, MIDP; Programming for CLDC, MIDlet model, Provisioning, MIDlet life-cycle, Creating new application, MIDlet event handling, GUI in MIDP, Low level GUI Components, Multimedia APIs; Communication in MIDP, Security Considerations in MIDP. 10 Hours

COURSE OUTCOMES:
The student should be able to:
- Work on state of art techniques in wireless communication.
- Explore CDMA, GSM, Mobile IP, WiMax
- Work on Different Mobile OS
- Develop program for CLDC, MIDlet model and security concerns

TEXT BOOKS:

REFERENCE BOOKS: