

Sub. Code	Title of the paper	Credit
18PHDCS01	MACHINE LEARNING	4

UNIT I

Introducing Machine Learning – The origins of machine learning – Uses and abuses of Machine learning – How machine learns – Machine learning in practice – Machine learning with R.

UNIT II

Managing and understanding data – R Data structures – Managing data with R – Exploring and understanding data – Classification using Nearest Neighbors – Understanding nearest neighbor classification.

UNIT III

Probabilistic learning – Classification using Naïve Bayes – Understanding Naive Bayes – Naïve Bayes algorithm – Divide and conquer – Classification using Decision trees and rules – Understanding decision trees – Example – Understanding classification rules.

UNIT IV

Forecasting Numeric data – Regression methods – Understanding regression – Example – Understanding regression trees and model trees – Black box methods – Neural networks and Support vector machines – Understanding neural networks – Understanding Support vector machines.

UNIT V

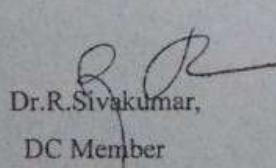
Finding patterns – Market Basket analysis using Association Rules – Finding groups of data – Clustering with K-means – Understanding clustering – Evaluating model performance – Measuring performance for classification – Estimating future performance.

Text Book:

1. "Machine Learning with R" Brett Lantz, Second edition, Packt Publishing Ltd. U.K ISBN: 978-1-78439-390-8.

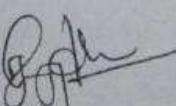
Reference Book:

"Machine Learning" Tom M. Mitchell, McGraw-Hill ISBN: 0070428077.



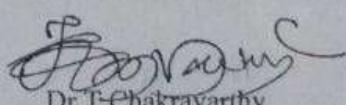
Dr. R. Sivakumar,

DC Member



Dr. J. Gnanajayanthi

DC Member



Dr. T. Chakravarthy

Research Supervisor

Dr. R. SIVAKUMAR
Associate Professor & Head
Dept. of Comp. Science
A.V.V.M. Sri Pushpam College
Poondi, Thanjavur.

J.J.GNANA JAYANTHI, M.C.A., M.Phil., Ph.D.
Assistant Professor
Dept. of Computer Science,
Berijji Govt. College (Autonomous),
Thanjavur - 613 005.

Dr. T. Chakravarthy,
Associate Professor,
Dept of Computer Science,
A.V.V.M. Sri Pushpam College
Poondi - 613 503.

Sub. Code	Title of the paper	Credit
18PHDCS02	CLOUD COMPUTING	4

Unit - I

Introducing Cloud Computing - Cloud Deployment Models-Cloud Service Models – Software as a Service(SAAS) – Understanding Multitenant Nature of SaaS Solutions – Understanding Open SaaS Solutions – Understanding Service Oriented Architecture (SOA).

Unit - II

Platform as a Service(PaaS) - IT Evolution Leading to the Cloud – Benefits of PaaS Solutions – Disadvantages of PaaS Solutions – Infrastructure as a Service(IaaS) –Understanding IaaS - Improving Performance Through Load Balancing - System and Storage Redundancy – Utilizing Cloud-Based NAS Devices – Advantages of IaaS Solutions -Server types Within an IaaS Solutions.

Unit - III

Identity as a Service(IDAAS) - Understanding Single Sign-On(SSO)- Understanding Open ID - Mobile ID Management - Data Storage in Cloud – Examining the Evolution of Network Storage - Traditional storage versus storage cloud - Understanding Cloud Based Data Storage - Storage classes for cloud - Storage cloud delivery models - Advantages and Disadvantages of Cloud Based Data Storage - Security and data protection - Cloud Based Backup System – Understanding File Systems - Industry - Specific Cloud Based Backup Systems - Cloud-Based Database Solutions – Cloud-Based Block Storage.

Unit - IV

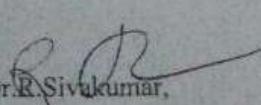
Securing the Cloud - Generated Security Advantages of Cloud-Based Solutions – Introducing Business Continuity and Disaster Recovery - Managing the Cloud - Know Your System's Data Flow - Know the Providers Security Policies and Procedures - Mobile Cloud Computing - Mobile Cloud Ecosystem.

Unit - V

Governance and Enterprise Risk Management - Legal and Electronic Discovery - Portability and Interoperability - Operating in the Cloud - Traditional Security, Business Continuity, and Disaster Recovery - Data Centre Operations - Incident Response, Notification, and Remediation - Application Security - Encryption and Key Management- Identity and Access Management- Virtualization.

References -

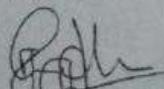
- Cloud Computing – Author - Kris Jamsa - First Edition 2014 - Publisher - Jones and Bartlett India Pvt. Ltd. New Delhi
- Cloud Computing Bible – Author - Barrie Sosinsky – Publisher – Wiley Publishing, Inc. – 2011.
- Cloud Computing Theory and Practice - Author – Dan c. Marinescu – Publisher – Elsevier Inc. – 2013.
- Cloud Computing V2.1, Prepared by the Cloud Security Alliance December 2009.



Dr. R. Sivakumar,

DC Member

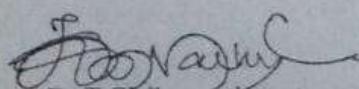
Dr. R. SIVAKUMAR
Associate Professor & Head
Dept. of Comp. Science
A.V.V.M. Sri Pushpam College
Poondi, Thanjavur.



Dr. J. Gnanajayanthi

DC Member

J. GNANAJAYANTHI, M.C.A, M.Phil, Ph.D.
Assistant Professor
Dept. of Computer Science
Poondi Govt. College (Autonomous), A.V.V.M. Sri Pushpam College
Tamil Nadu - 613 503.



Dr. T. Chakravarthy

Research Supervisor

Dr. T. Chakravarthy,
Associate Professor
Dept. of Computer Science
Poondi Govt. College (Autonomous), A.V.V.M. Sri Pushpam College
Poondi - 613 503.

Sub. Code	Title of the paper	Credit
17PHDCS01	CLOUD COMPUTING	4

Unit – I

Introducing Cloud Computing - Cloud Deployment Models-Cloud Service Models – Software as a Service(SAAS) – Understanding Multitenant Nature of SaaS Solutions – Understanding Open SaaS Solutions – Understanding Service Oriented Architecture (SOA).

Unit – II

Platform as a Service(PaaS) - IT Evolution Leading to the Cloud – Benefits of PaaS Solutions – Disadvantages of PaaS Solutions – Infrastructure as a Service(IaaS) –Understanding IaaS - Improving Performance Through Load Balancing - System and Storage Redundancy – Utilizing Cloud-Based NAS Devices – Advantages of IaaS Solutions -Server types Within an IaaS Solutions.

Unit – III

Identity as a Service(IDAAS) - Understanding Single Sign-On(SSO)- Understanding Open ID - Mobile ID Management - Data Storage in Cloud – Examining the Evolution of Network Storage – Traditional storage versus storage cloud - Understanding Cloud Based Data Storage - Storage classes for cloud - Storage cloud delivery models - Advantages and Disadvantages of Cloud Based Data Storage - Security and data protection - Cloud Based Backup System – Understanding File Systems – Industry - Specific Cloud Based Backup Systems - Cloud-Based Database Solutions – Cloud-Based Block Storage.

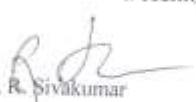
Unit – IV

Securing the Cloud - Generated Security Advantages of Cloud-Based Solutions – Introducing Business Continuity and Disaster Recovery - Managing the Cloud - Know Your System's Data Flow - Know the Providers Security Policies and Procedures - Mobile Cloud Computing - Mobile Cloud Ecosystem.

Unit – V

Governance and Enterprise Risk Management - Legal and Electronic Discovery - Portability and Interoperability - Operating in the Cloud - Traditional Security, Business Continuity, and Disaster Recovery - Data Centre Operations - Incident Response, Notification, and Remediation - Application Security - Encryption and Key Management- Identity and Access Management- Virtualization.

- References** - Cloud Computing – Author - Kris Jamsa - First Edition 2014 -
 Publisher - Jones and Bartlett India Pvt. Ltd. New Delhi
 Cloud Computing Bible – Author - Barrie Sosinsky – Publisher – Wiley Publishing, Inc. – 2011.
 Cloud Computing Theory and Practice - Author – Dan c.Marinescu – Publisher – Elsevier Inc. – 2013.
 Cloud Computing V2.1, Prepared by the Cloud Security Alliance December 2009.



Dr. R. Sivakumar

DC Member

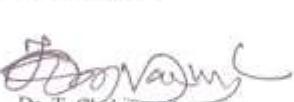
Dr.R.SIVAKUMAR
 Associate Professor & Head
 Dept. of Comp. Science
 A.V.V.M. Sri Pushpam College
 Poondi, Thanjavur.



Dr.D.J.Evanjaline

DC Member

Dr.D.J. Evanjaline
 Assistant Professor
 Department of Computer Science
 Rajah Serfoji Govt. College (Autonomous)
 Thanjavur - 613 005.



Dr. T. Chakravarthy

Research Advisor

Dr. T. Chakravarthy,
 Associate Professor,
 Dept of Computer Science,
 A.V.V.M. Sri Pushpam College,
 Poondi - 613 503.

Sub. Code	Title of the paper	Credit
17PHDCS02	ARTIFICIAL NEURAL NETWORKS	4

Unit – I

Introducing to Artificial neural Networks: Introduction – What is a Neural Network? – Brain – The Original Neural Network – Artificial Neuron – Classification of ANN – Architecture of a ANN – Activation Functions – Training an ANN.

Unit – II

Learning Rules: Aimari's General Learning Rule – HEBB Learning Rule – DELTA Rule – ADLINE Learning Algorithm – MADALINE System Network – Perceptron Layer Network.

Unit – III

Self- Organizing Maps: Topological Preserving Net: Introduction – Fixed Weight Competitive Nets – Kohonen Self – Organizing maps – Counter propagation – Learning Vector Quantization.

Unit – IV

Backpropagation Network: Historical Background – Introduction – Architecture – Derivation of learning Rule for Backpropagation procedure – Frequency of Weight Updates – Number of Hidden Layers and Nodes – Adaptive Rates – Applications of Backpropagation Algorithm.

Unit – V

Special Networks: Introduction – Probabilistic Networks – Cognitron – Neocognitron – Optical Neural Networks.

Text Book:

1. "Introduction to Artificial Neural Network" S.N.Sivanandam & M.Paulraj, Vikas Publishing House Pvt. Ltd.

Reference Book:

1. "Introduction to Artificial Neural Systems" Jacek M.Zurada (1994) – Jaico Publishing House.


Dr. R. Sivakumar

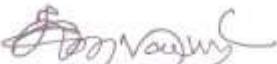
DC Member

Dr. R. SIVAKUMAR
Associate Professor & Head
Dept. of Comp. Science
A.V.V.M. Sri Pushpam College
Poondi, Thanjavur.


Dr.D.J.Evanjaline

DC Member

Dr.D.J. Evanjaline
Assistant Professor
Department of Computer Science
Rajah Serfoji Govt. College (Autonomous)
Thanjavur - 613 005.


Dr. T. Chakravarthy

Research Advisor

Dr. T. Chakravarthy,
Associate Professor.
Dept of Computer Science,
A.V.V.M. Sri Pushpam College,
Poondi - 613 503.

Sub. Code	Title of the paper	Credit
16PHDCS01	CLOUD COMPUTING	4

Unit - I

Introducing Cloud Computing - Cloud Deployment Models-Cloud Service Models – Software as a Service(SAAS) – Understanding Multitenant Nature of SaaS Solutions – Understanding Open SaaS Solutions – Understanding Service Oriented Architecture (SOA).

Unit - II

Platform as a Service(PaaS) - IT Evolution Leading to the Cloud – Benefits of PaaS Solutions – Disadvantages of PaaS Solutions – Infrastructure as a Service(IaaS) –Understanding IaaS - Improving Performance Through Load Balancing - System and Storage Redundancy – Utilizing Cloud-Based NAS Devices – Advantages of IaaS Solutions -Server types Within an IaaS Solutions.

Unit - III

Identity as a Service(IDAAS) - Understanding Single Sign-On(SSO)- Understanding Open ID - Mobile ID Management - Data Storage in Cloud – Examining the Evolution of Network Storage – Traditional storage versus storage cloud - Understanding Cloud Based Data Storage - Storage classes for cloud - Storage cloud delivery models - Advantages and Disadvantages of Cloud Based Data Storage - Security and data protection - Cloud Based Backup System – Understanding File Systems – Industry - Specific Cloud Based Backup Systems - Cloud-Based Database Solutions – Cloud-Based Block Storage.

Unit - IV

Securing the Cloud - Generated Security Advantages of Cloud-Based Solutions – Introducing Business Continuity and Disaster Recovery - Managing the Cloud - Know Your System's Data Flow - Know the Providers Security Policies and Procedures - Mobile Cloud Computing - Mobile Cloud Ecosystem.

Unit - V

Governance and Enterprise Risk Management - Legal and Electronic Discovery - Portability and Interoperability - Operating in the Cloud - Traditional Security, Business Continuity, and Disaster Recovery - Data Centre Operations - Incident Response, Notification, and Remediation - Application Security - Encryption and Key Management- Identity and Access Management- Virtualization.

- References** - Cloud Computing – Author - Kris Jamsa - First Edition 2014 -
 Publisher - Jones and Bartlett India Pvt. Ltd. New Delhi
 Cloud Computing Bible – Author - Barrie Sosinsky – Publisher – Wiley Publishing, Inc. – 2011.
 Cloud Computing Theory and Practice - Author – Dan c. Marinescu – Publisher – Elsevier Inc. – 2013.
 Cloud Computing V2.1, Prepared by the Cloud Security Alliance December 2009.

Dr. R. Sivakumar

DC Member

Dr. K. Palanivel

DC Member

Dr. T. Chakravarthy

Research Advisor

I.P.A.I.S.
Associate Prof. ss
Dept. of Comp.
B.V.V.M. Sri Krishnamoorthy
Institute, The
Tirumalai, Tamil Nadu

Dr. K. Palanivel, M.Sc., M.Phil., Ph.D.,
Associate Professor of Computer Science,
A. V. C. College (Autonomous),
Mayiladuthurai - 609 305, Nagai Dt., TN.

Dr. T. Chakravarthy,
Associate Professor.

Scanned by TapScanner

Sub. Code	Title of the paper	Credit
16PHDCS02	ARTIFICIAL NEURAL NETWORKS	4

Unit – I

Introducing to Artificial neural Networks: Introduction – What is a Neural Network? – Brain – The Original Neural Network – Artificial Neuron – Classification of ANN – Architecture of a ANN – Activation Functions – Training an ANN.

Unit – II

Learning Rules: Amari's General Learning Rule – HEBB Learning Rule – DELTA Rule – ADLINE Learning Algorithm – MADALINE System Network – Perceptron Layer Network.

Unit – III

Self- Organizing Maps: Topological Preserving Net: Introduction – Fixed Weight Competitive Nets – Kohonen Self – Organizing maps – Counter propagation – Learning Vector Quantization.

Unit – IV

Backpropagation Network: Historical Background – Introduction – Architecture – Derivation of learning Rule for Backpropagation procedure – Frequency of Weight Updates – Number of Hidden Layers and Nodes – Adaptive Rates – Applications of Backpropagation Algorithm.

Unit – V

Special Networks: Introduction – Probabilistic Networks – Cognitron – Neocognitron – Optical Neural Networks.

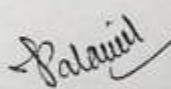
Text Book:

1. "Introduction to Artificial Neural Network" S.N.Sivanandam & M.Paulraj, Vikas Publishing House Pvt. Ltd.

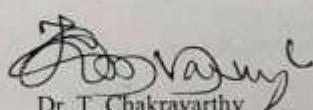
Reference Book:

1. "Introduction to Artificial Neural Systems" Jacek M.Zurada (1994) – Jaico Publishing House.

Dr. R. Sivakumar
DC Member



Dr. K. Palanivel
DC Member



Dr. T. Chakravarthy
Research Advisor

Dr. R. SIVAKUMAR
Associate Professor & Head
Dept. of Comp. Science
A.V.V.M. Sri Pushpam College
Tirupattur - 637 305, Nagal Dt., TN.
Cell: 944 350 1690

Dr. T. Chakravarthy,
Associate Professor.
Dept of Computer Science.
A.V.V.M. Sri Pushpam College,
Poondi - 613 503.

Subject code	Title of the course	No. of Credits
17PHDCS02	UBIQUITOUS COMPUTING	4

Unit - I

An Introduction to Ubiquitous Computing : Founding Contributions to Ubiquitous Computing - Ubiquitous Computing in U.S. Universities - Ubiquitous Computing in European Laboratories and Universities - Modern Directions in Ubiquitous Computing - The Research Community Embraces Ubiquitous Computing - The Future of Ubiquitous Computing

Unit - II

Ubiquitous Computing Systems : Ubicomp Systems Topics and Challenges - Creating Ubicomp Systems-Implementing Ubicomp Systems-Evaluating and Documenting Ubicomp Systems.

Unit - III

Privacy in Ubiquitous Computing : Understanding Privacy - Technical Solutions for Ubicomp Privacy - Address Privacy. Ubiquitous Computing Field Studies : Three Common Types of Field Studies - Study Design - Participants- Data Analysis - Steps to a Successful Study

Unit - IV

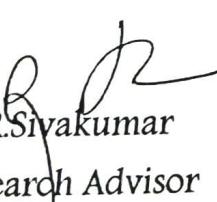
Ethnography in Ubiquitous Computing - From Ethnography to Design - Design-Oriented Ethnography in Practice. From GUI to UUI: Interfaces for Ubiquitous Computing: Interaction Design-Classes of User Interface-Input Technologies.

Unit - V

Location in Ubiquitous Computing: Characterizing Location Technologies - Location Systems: Context-Aware Computing: Context-Aware Applications - Designing and Implementing Context-Aware Applications - Issues to Consider when Building Context-Aware Applications- Challenges in Writing Academic Papers on Context Awareness

Reference:

1. Ubiquitous Computing Fundamentals - Edited by John Krumm Microsoft Corporation Redmond, Washington, U.S.A.


Dr.R.Sivakumar
Research Advisor


Dr.J.G.R.Sathiyaseelan
DC Member

Dr. J.G.R. Sathiyaseelan, Ph.D.,
Associate Professor & Head
Department of Computer Science,
Bishop Heber College,
Tiruchirapalli - 620 017.


Dr.T.Chakravarthy
DC Member

Dr. T. Chakravarthy,
Associate Professor.
Dept of Computer Science.
A.V.V.M. Sri Pushpam College.
Poondi - 613 503.

Subject code	Title of the course	No. of Credits
17PHDCS01	Internet-of-Things	4

UNIT I

Internet of Things Strategic Research and Innovation Agenda:

Vision – Internet of Common Definition – IoT Strategic Research and Innovation Directions - IoT Strategic Research and Innovation Directions – IoT Application and Use Case Scenarios - IoT Functional View – Application Areas - IoT Smart-X Applications – Smart Cities – Smart Energy and the Smart Grid - Smart Mobility and Transport – Smart Home , Smart Buildings and Infrastructure – Smart Factory and Smart manufacturing – Smart Health – Food and Water Tracking and Security –Participatory Sensing - Smart Logistics and Retail

UNIT II

Internet of Things and Related Future Internet Technologies:

Cloud Computing – IoT and Semantic Technologies – Networks and Communication – Networking Technology – Communication Technology - Processes – Adaptive and Event- Driven Processes – Processes Dealing with Unreliable Data – Processes dealing with unreliable resources – Highly Distributed Processes – Data Management – Data Collection and Analysis (DCA) – Big Data – Semantic Sensor Networks and Semantic – Annotation of data – Virtual Sensors –Security , Privacy & Trust – Trust for IoT – Security for IoT – Privacy for IoT – Device Level Energy Issues –Low Power Communication – Energy Harvesting – Future Trends and Recommendations – Related Standardization – The Role of Standardization Activities – Current Situation – Area for Additional Consideration – Interoperability in the Internet-of –Things – IoT Protocols Convergence – Message Queue Telemetry Transport (MQTT) - Constrained Applications Protocol (CoAP) – Advanced Message Queuing Protocol (AMQP) -Java Message Service API (JMS) – Data Distribution Service (DDS) – Representational State Transfer (REST) – Extensible Messaging and Presence Protocol (XMPP)

UNIT III

Internet of Things Global Standardisation – State of Play:

Introduction – General – IoT Vision –IoT Drivers _IoT Definition – IoT Standardisation Landscape – CEN\ISO and CENELEC/IEC – ETSI – IEEE – IETF – ITU-T - OASIS - OGC – oneM2M – GS1 – IERC Research Projects Positions – BETaaS – Advisory Board Experts Position – IoT6 Position.

UNIT IV

Dynamic Context-Aware Scalable and Trust-Based IoT Security, Privacy Framework:

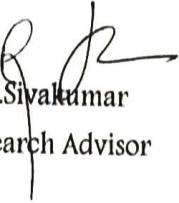
Introduction – Background Work – Main Concept and Motivation of the Framework – Identity Management – Size and Heterogeneity of the System – Anonymization of user Data and Metadata - Action's Control – Privacy by Design Context Awareness – summary – A policy-based framework for Security and Privacy in Internet of Things – Deployment in a Scenario – Policies and Context Switching – Framework Architecture and Enforcement – Conclusion and Future Developments – Acknowledgments.

UNIT V

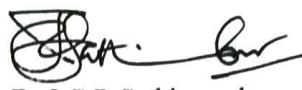
Scalable Integration Framework for Heterogeneous Smart Object , Applications and Services: Introduction – IPv6 Potential – IoT6 – IPv6 for IoT – Adapting IPv6 to IoT Requirements – IoT6 Architecture- DigCovery – IoT6 Integration with the Cloud and EPICS – Enabling Heterogeneous Integration – IoT6 Smart Office Use-case – Scalability Perspective.

Text Book:

Internet of Things – From Research and Innovation to Market Deployment by Ovidiu Vermesan and Peter Friess River Publications,2014



Dr.R.Sivakumar
Research Advisor



Dr.J.G.R.Sathiyaseelan
DC Member

Dr. J.G.R. Sathiyaseelan, Ph.D.,
Associate Professor & Head
Department of Computer Science,
Bishop Heber College,
Tiruchirapalli - 620 017.



Dr.T.Chakravarthy
DC Member

Dr. T. Chakravarthy,
Associate Professor.
Dept of Computer Science.
A.V.V.M. Sri Pushpam College
Poondi - 613 503.

Subject code	Title of the course	No. of Credits
19PHDCS01	HUMAN COMPUTER INTERACTION	4

Objective

- ❖ To Understand the concepts and techniques for effective interaction between Human and Computers

Unit I:

Hrs 15

Cognitive Psychology and Computer Science - Capabilities of Human-Computer Interaction (HCI)-Goals of Human-Computer Interaction (HCI)-Roles of Human, Computer and Interaction in HCI- Basic User Interfaces - Advanced User Interfaces - Justification of Interdisciplinary Nature - Standard Framework of HCI -HCI Design Principles -Interface Levels in HCI- Steps in Designing HCI Applications-Graphical User Interface Design -Popular HCI Tools-Architecture of HCI Systems- Advances in HCI- Overview-HCI Sample Exercises **Usability Engineering** -Introduction-HCI and Usability Engineering -Usability Engineering Attributes-Process of Usability-Need for Prototyping.

Unit II

Hrs 15

Recommender Systems- Introduction- HCI Study Based on Personalisation - Personalisation in Recommender Systems -Relation between Information Filtering and Recommender Systems -Application Areas of Recommender Systems-Recommender System Field as an Interdisciplinary Area of Research-Phases of Recommender Systems -User Profiling Approaches-Classification of Recommendation Techniques -Advantages and Disadvantages of Recommender System Approaches -Need of Software Agent-based Approach in Recommender Systems-Evaluating Recommender Systems-Integrated Framework for Recommender Systems-Case Study: Music Recommender System .

Unit III

Hrs 15

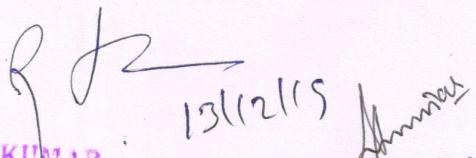
Ambient Intelligence: The New Dimension of Human-Computer Interaction - Introduction - Ambient Intelligence Definition-Context-aware Systems and Human-Computer Interaction -Middleware - Modelling Data for AmI Environment -Development of Context-awareness Feature in Smart Class Room— A Case Study - Context-aware Agents for Developing AmI Applications—A Case Study

UNIT IV

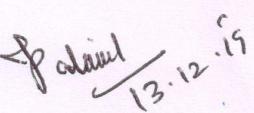
Hrs 15

RDF and RDF Schema

Introduction – XML Essential – RDF – RDF Scheme – A Summary of RDF/ RDF Scheme vocabulary. **OWL:** Introduction – Requirements for Web Ontology Description Languages – Header Information, Versioning and Annotation Properties – Properties – Classes Individuals Data types – A Summary of the OWL vocabulary.


Dr. R. SIVAKUMAR
Associate Professor & Head
Dept. of Comp. Science
A.V.V.M. Sri Pushpam College
Poondi, Thanjavur.


Dr. S. KUMARAVEL, M.Sc.,M.Phil.,Ph.D
Associate Professor
Department of Computer Science
A.V.V.M. Sri Pushpam College (Autonomous)
Poondi, Thanjavur. 613 503.


Dr. K. Palanivel, M.Sc.,M.Phil.,Ph.D.,
Associate Professor of Computer Science,
A. V. C. College (Autonomous),
Palavuruthurai - 600 305, Nagai Dt., TN.
Ph: 043 250 1392
Cell: 944 250 1392

UNIT V**Hrs 15**

Applications: Software Agents – Introduction – Agent Forms – Agent Architecture – Agent in the Semantic Web Context. **Semantic Desktop:** Introduction - Semantic Desktop Meta data – Semantic Desktop Ontologies – Semantic Web Architecture - Semantic Desktop Related Applications. **Ontology Applications:** Introduction – Ontologies for the Description of Works of Art – Meta data schemas for the Description of Works of Art – Meta data schemas for the Description of Works of Art – Semantic Annotation of Art Images.

Text book:

1. K. Meena, R. Sivakumar, "Human-Computer Interaction", PHP Learning Private limited Delhi-110092, 2015.
2. Unit I and II "Semantic Web: Concepts, Technologies and Applications" K. K/ Breitman, M. A. Casanova and W. Truszkowski Springer - Verlag London Limited, 20907, India Reprint by Ramko press(p) Ltd, New Delhi 2010.
3. Unit V "Student Awareness Model based on Student Affective Response and Generic Profiles"- Ahmad Sofian Shminan, Toshihiro Tamura, and Runhe Huan 2012 IEEE International Conference on Information Science and Technology Wuhan, Hubei, China; March 23-25, 2012

Reference:

1. "Alan Dix, Janet Finlay, Gregory D.Abowd, Russell Beale", "Human-Computer Interaction", 3rd Edition, Pearson publications, 2008.

Dr.R.Sivakumar

Research Advisor

13/12/15

Dr.R.SIVAKUMAR
Associate Professor & Head
Dept. of Comp. Science
A.V.V.M. Sri Pushpam College
Poondi, Thanjavur.

Dr.S.Kumaravel

DC Member

Dr. S. KUMARAVEL, M.Sc.,M.Phil.,Ph.D..
Associate Professor
Department of Computer Science
A.V.V.M. Sri Pushpam College (Autonomous)
Poondi, Thanjavur-613 503.

Dr.K.Palanivel

DC Member

Dr. K. Palanivel, M.Sc.,M.Phil.,Ph.D.,
Associate Professor of Computer Science,
A. V. C. College (Autonomous),
Mayiladuthurai - 609 305, Nagai Dt., TN.
Cell: 944 350 1690

Subject code	Title of the paper	No. of Credits
19PHDCS02	ONTOLOGICAL ENGINEERING	4

Objective

- ❖ To understand various ontological Engineering.

Unit I: Theoretical Foundation of Ontologies

Hrs 15

From Ontologies towards Ontologies Engineering-What is Ontologies - Main components of an Ontologies-Types of Ontologies-Ontologies Commitments-Principles for the Design of Ontologies.

Unit II: The most outstanding Ontologies

Hrs 15

Knowledge Representation Ontology - Top level Ontologies - Linguistic Ontologies -Domain Ontologies.

Unit III: Methodologies and methods for Building Ontology

Hrs 15

Ontologies Development Process - Ontology Methodology Evolution-Ontology Development methods and Methodologies - Method for Re-Engineering Ontologies - Ontologies learning Methods - Ontology Merging Methods and methodologies - Co4: a Protocol for Cooperative Construction of Ontologies - Methods for Evaluating Ontologies.

Unit IV: Languages for Building Ontologies

Hrs 15

Ontology Language Evolution - Selection of ontology Language-Traditional Ontology Language-Ontology Mark up Languages.

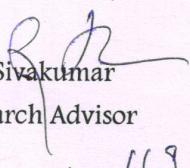
Unit V: Ontology Tools

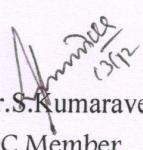
Hrs 15

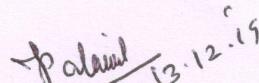
Ontology Tools Evolution - Ontology Development Tools and Tools Suites - Ontology Merge Tools - Ontology - based Annotation Tools.

Text Books:

1. Asuncion Gomez-perez,Mariano Fernandez-Lopez and Oscar Corcho. "Ontological Engineering", Springer 2nd Printing, 2011.


Dr.R.Sivakumar
Research Advisor
(3/12/19)


Dr.S.Kumaravel
DC Member


Dr.K.Palanivel
DC Member

Dr.R.SIVAKUMAR
Associate Professor & Head
Dept. of Comp. Science
A.V.V.M. Sri Pushpam College
Poondi, Thanjavur.

Dr. S. KUMARAVEL, M.Sc.,M.Phil.,Ph.D.,
Associate Professor
Department of Computer Science
A.V.V.M. Sri Pushpam College (Autonomous)
Poondi, Thanjavur-613 503.

Dr. K. PALANIVEL, M.Sc.,M.Phil.,Ph.D.,
Associate Professor of Computer Science,
A. V. C. College (Autonomous),
Mayiladuthurai - 609 305, Nagai Dt., TN.
Cell: 944 350 1690

Sub. Code	Title of the paper	Credit
16PHDCS01	CLOUD COMPUTING	4

Unit - I

Introducing Cloud Computing - Cloud Deployment Models-Cloud Service Models – Software as a Service(SAAS) – Understanding Multitenant Nature of SaaS Solutions – Understanding Open SaaS Solutions – Understanding Service Oriented Architecture (SOA).

Unit - II

Platform as a Service(PaaS) - IT Evolution Leading to the Cloud – Benefits of PaaS Solutions – Disadvantages of PaaS Solutions – Infrastructure as a Service(IaaS) –Understanding IaaS - Improving Performance Through Load Balancing - System and Storage Redundancy – Utilizing Cloud-Based NAS Devices – Advantages of IaaS Solutions -Server types Within an IaaS Solutions.

Unit - III

Identity as a Service(IDAAS) - Understanding Single Sign-On(SSO)- Understanding Open ID - Mobile ID Management - Data Storage in Cloud – Examining the Evolution of Network Storage – Traditional storage versus storage cloud - Understanding Cloud Based Data Storage - Storage classes for cloud - Storage cloud delivery models - Advantages and Disadvantages of Cloud Based Data Storage - Security and data protection - Cloud Based Backup System – Understanding File Systems – Industry - Specific Cloud Based Backup Systems - Cloud-Based Database Solutions – Cloud-Based Block Storage.

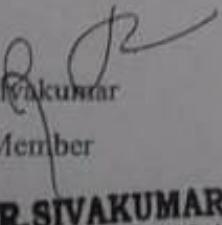
Unit - IV

Securing the Cloud - Generated Security Advantages of Cloud-Based Solutions – Introducing Business Continuity and Disaster Recovery - Managing the Cloud - Know Your System's Data Flow - Know the Providers Security Policies and Procedures - Mobile Cloud Computing - Mobile Cloud Ecosystem.

Unit - V

Governance and Enterprise Risk Management - Legal and Electronic Discovery - Portability and Interoperability - Operating in the Cloud - Traditional Security, Business Continuity, and Disaster Recovery - Data Centre Operations - Incident Response, Notification, and Remediation - Application Security - Encryption and Key Management- Identity and Access Management- Virtualization.

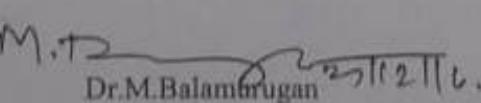
- References** - Cloud Computing – Author - Kris Jamsa - First Edition 2014 -
 Publisher - Jones and Bartlett India Pvt. Ltd. New Delhi
 Cloud Computing Bible – Author - Barrie Sosinsky – Publisher – Wiley Publishing, Inc. – 2011.
 Cloud Computing Theory and Practice - Author – Dan c.Marinescu – Publisher – Elsevier Inc. – 2013.
 Cloud Computing V2.1, Prepared by the Cloud Security Alliance December 2009.



Dr. R. SIVAKUMAR

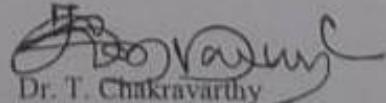
DC Member

Dr.R.SIVAKUMAR
Associate Professor & Head
Dept. of Comp. Science
A.V.V.M. Sri Pushpam College
Poondi, Thanjavur.



M.T
Dr.M.Balamburugan 27/2/16.

DC Member



Dr. T. CHAKRAVARTHY

Research Advisor

Dr. T. Chakravarthy,
Associate Professor,
Dept of Computer Science,
A.V.V.M. Sri Pushpam College,
Poondi - 613 503.

Sub. Code	Title of the paper	Credit
16PHDCS02	ARTIFICIAL NEURAL NETWORKS	4

Unit - I

Introducing to Artificial neural Networks: Introduction – What is a Neural Network? – Brain – The Original Neural Network – Artificial Neuron – Classification of ANN – Architecture of a ANN – Activation Functions – Training an ANN.

Unit - II

Learning Rules: Amari's General Learning Rule – HEBB Learning Rule – DELTA Rule – ADLINE Learning Algorithm – MADALINE System Network – Perceptron Layer Network.

Unit - III

Self- Organizing Maps: Topological Preserving Net: Introduction – Fixed Weight Competitive Nets – Kohonen Self – Organizing maps – Counter propagation – Learning Vector Quantization.

Unit - IV

Backpropagation Network: Historical Background – Introduction – Architecture – Derivation of learning Rule for Backpropagation procedure – Frequency of Weight Updates – Number of Hidden Layers and Nodes – Adaptive Rates – Applications of Backpropagation Algorithm.

Unit - V

Special Networks: Introduction – Probabilistic Networks – Cognitron – Neocognitron – Optical Neural Networks.

Text Book:

1. "Introduction to Artificial Neural Network" S.N.Sivanandam & M.Paulraj, Vikas Publishing House Pvt. Ltd.

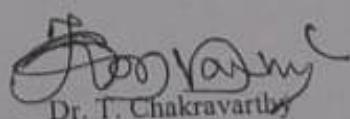
Reference Book:

1. "Introduction to Artificial Neural Systems" Jacek M.Zurada (1994) – Jaico Publishing House.

Dr. R. Sivakumar
DC Member

Dr. R. SIVAKUMAR
Associate Professor & Head
Dept. of Comp. Science
A.V.V.M. Sri Pushpam College
Poondi, Thanjavur.

M.D
Dr. M.Balamurugan
DC Member


Dr. T. Chakravarthy

Research Advisor

Dr. T. Chakravarthy,
Associate Professor,
Dept of Computer Science,
A.V.V.M. Sri Pushpam College,
Poondi - 613 503.

Subject code	Title of the course	No. of Credits
16PHDCS01	HUMAN COMPUTER INTERACTION	4

Objective

- ❖ To Understand the concepts and techniques for effective interaction between Human and Computers

Unit I:

Hrs 15

Cognitive Psychology and Computer Science - Capabilities of Human-Computer Interaction (HCI)-Goals of Human-Computer Interaction (HCI)-Roles of Human, Computer and Interaction in HCI- Basic User Interfaces - Advanced User Interfaces - Justification of Interdisciplinary Nature - Standard Framework of HCI -HCI Design Principles -Interface Levels in HCI- Steps in Designing HCI Applications-Graphical User Interface Design -Popular HCI Tools-Architecture of HCI Systems- Advances in HCI- Overview-HCI Sample Exercises
Usability Engineering -Introduction-HCI and Usability Engineering -Usability Engineering Attributes-Process of Usability-Need for Prototyping.

Unit II

Hrs 15

Recommender Systems- Introduction- HCI Study Based on Personalisation - Personalisation in Recommender Systems -Relation between Information Filtering and Recommender Systems -Application Areas of Recommender Systems-Recommender System Field as an Interdisciplinary Area of Research-Phases of Recommender Systems -User Profiling Approaches-Classification of Recommendation Techniques -Advantages and Disadvantages of Recommender System Approaches -Need of Software Agent-based Approach in Recommender Systems-Evaluating Recommender Systems-Integrated Framework for Recommender Systems-Case Study: Music Recommender System .

Unit III

Hrs 15

Ambient Intelligence: The New Dimension of Human-Computer Interaction - Introduction - Ambient Intelligence Definition-Context-aware Systems and Human-Computer Interaction -Middleware - Modelling Data for AmI Environment -Development of Context-awareness Feature in Smart Class Room— A Case Study - Context-aware Agents for Developing AmI Applications—A Case Study

UNIT IV

Hrs 15

Web services Research studies

Web services and Service Oriented Approach

Introduction to Service Oriented architecture – architecture of Web services and service-oriented architecture - Web services development approach - enterprise service bus - Uniform Interface-Lab Environment setup using web services - service on demand technologies - Web services survey - Middleware based Quality Management for Context aware Applications.

Dr. K. Palanivel, M.Sc., M.Phil., Ph.D.,
Associate Professor of Computer Science,
A. V. C. College (Autonomous),
Mayiladuthurai - 603 305, Nagai DL, TN.
Cell: 944 350 1690

Dr. T. Chakravarthy,
Associate Professor,
Dept of Computer Science,
A.V.M. Sri Pushpam College,
Poondi - 613 503.

Dr. M. SIVARAJAN
Associate Professor & Head
Dept. of Comp. Science
A.V.M. Sri Pushpam College
Poondi, Thanjavur.