

Department of Master of Computer Applications

National Conference on Computational Intelligence and Applications

NC21A- 2k25

August 22, 2025



ISBN: 978-81-990621-8-4

DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS



- The Master of Computer Applications department consists of well qualified professionals with extensive teaching experience.
- Provision to apply for Company Incorporation with a pre-approved Company Name.
- The Department has state of the art infrastructure and computing equipments supported by high speed Ethernet and Wi-Fi networks.
- Track based courses such as Cloud Computing, Data analyst & Big Data, Cyber Security, Artificial Intelligence as per industry need
- Project and Activity Based Learning
- Research Methodology motivates students to pursue research and innovation
- AI based research projects from various industries
- Open Elective offered for interdisciplinary knowledge
- Train & Hire program by distinguished IT Personalities
- Special Provision for Aptitude & Personality Development
- Strong alumni base working in industries & institutions

“The future of AI is not about replacing humans, it’s about augmenting human capabilities”



National Conference on Computational Intelligence & Applications

NC21A-2K25

Conference Proceedings

Editorial

Dr.M.Charles Arockiaraj
Prof.Gunasekaran.K

August22, 2025

Organized By

Department of Master of Computer Applications

AMC Engineering College

Bannerghatta Road, Bengaluru-560083, India

www.amcgroup.ac.in

INDEX

S.NO	TITLES	PAGE
1	Harnessing Large Language Models for Advanced Twitter Sentiment Analysis P. Caroline Anitha, D. Murali, R. Sandhiya, P. Anitha	1
2	Clair Vis: A Machine Learning-Powered System for Vision Clarity Restoration and Eye Disease Prediction N RAJESH, ABHILASH V	2
3	Stroke Prediction by using Machine Learning algorithm based on symptoms Abhishek A Nair, Saborni Bhattacharya, S Rakshith, Vaishanavi K, Nipun Sharma	3
4	Zootomate: Digitizing Zoo Operations With A Role-Based Php Web System And Embedded QR Codes Using Php QR Code Prof. Rajesh N, Abhishek R	4
5	A Data- Intelligent Approach To Cervical Cancer Forecasting Dr. MS. Shashidhara, Agasanoor Kavya	5
6	EthicPayGuard: Societal-Aware Fraud Detection System Dr. M. S. Shashidhara, Aksha M. K.	6
7	Carrercreate: An Job-Portal Web Application Dr. MS Shashidar, Akshata B M	7
8	A Smart and Tamper-Resistant Framework for Vaccine Distribution Using Advanced Computational Techniques Rajesh N, Ameesha S S	8
9	ANTIFRAUDTEST: A Predictive Model for Student Cheating Detection Using Behavior Analytics Rajesh N, Amulya K S	9
10	Smart City Transportation Deep Learning Ensemble Approach for Traffic Accident Detection Rajesh N, Anjali	10
11	A Deep Learning Approach for Detecting Scale-Variant Ships in Satellite Radar Images Using YOLOv5-Fusion Gunasekaran K, Appu Gowda H R	11
12	Cascaded Asr-Mt-Tts For Real-Time Voice And Document Translation Dr. M. S. Shashidhara, Ashwini K B	12
13	Smart Election Ai System Gunasekaran K, Atish Kumar	13
14	Cronus-view: A Real-Time Stampede Risk Detection and Safety Trigger System for Urban Surveillance Dr. M. S. Shashidhara, Atul Kumar	14
15	Linking Donors and Communities for a Hunger-Free Tomorrow B. Sheeba, S. Balaji, A. Fareedkhan, R. Naveen Kumar	15

16	Dailydrift - An Advanced Journal Application For Mood Tracking & Self-Reflection Dr. MS Shashidhara, Bele Anirudha Ramchandra	16
17	Cnn-Based Automated Detection And Classification Of White Blood Cells Dr. M S Shashidhara, Bhoomika G M	17
18	Hands-Free Human-Computer Interaction Using Python Based Gesture Control And Voice-Assisted Command Execution Dr. M S Shashidhara, Chandan M	18
19	Neuronest: A Context-Aware Micro-Environment For Dynamic Childcare Insights And Predictive Wellbeing Dr. M S Shashidhar, Chiranjeevi K A	19
20	Petography ML-Powered Pet Care Platform with Adoption Management, Health Monitoring Dashboard, and Gemini-Based Veterinary Triage System Mr. Gunasekaran K, Darshan Gowda A	20
21	Secure Collab: Encrypted Workspace For File Sharing & Team Collaboration Dr. M S Shashidhar, Deekshitha V	21
22	An Automated Deep Learning Approach to Identify Prevent Online Recruitment Fraud through Job Posting Analysis Gunasekaran K, Deepika A D	22
23	ROBODOC AI – AI Powered Robotic Surgery Assistant for Detection and Treatment Planning Dr. M S Shashidhara, Divya Shree D	23
24	Digital Transformation in E-commerce: An Empirical Analysis of Customer Behaviour and Marketing Performance Using Machine Learning Approaches Dr H Jayamangala	24
25	Comparative Analysis Of Ai-Driven Iot-Based Smart Agriculture Platforms With Blockchain-Enabled Marketplaces Dr. SUMATHY KINGSLIN, Ms. K. VAISHNAVI	25
26	Optimizing Fog Computing Bandwidth for IoT Applications: A Peer-to-Peer Approach Dr.S.Suganthi, Dr Suresh D	26
27	Obstructive Sleep Apnea Classification Using Machine Learning Techniques E. Jeslin Renjith	27
28	FlowSentinel: Traffic Anomaly Smart Shield Gunasekaran K, G Charan Kumar Reddy	28
29	Tech4Village – A Digital Platform for Smart and Inclusive Rural Development Dr. M S SHASHIDHARA, Gagana N	29
30	Real-Time Bi-Directional Cloud-Synced Relay Control for Domestic Automation Interfaces – Dr. M S Shashidhara, Gokul Sudarshan K V	30

Digital Transformation in E-commerce: An Empirical Analysis of Customer Behaviour and Marketing Performance Using Machine Learning Approaches

Dr H Jayamangala¹,

¹Assistant Professor, Department of Computer Applications (PG), VISTAS, Chennai
jayamangala.scs@vistas.ac.in

Abstract

The rapid digitization of commerce has fundamentally transformed customer behaviour patterns and marketing effectiveness. This research presents a comprehensive empirical analysis of e-commerce customer behaviour and digital marketing performance using machine learning methodologies applied to 85,734 customers across multiple geographic regions. The study employs descriptive, predictive, and prescriptive analytics to address three critical research questions regarding customer lifetime value predictors, digital marketing channel effectiveness, and AI-driven personalization impact. The methodology integrates K-means clustering for customer segmentation, ensemble machine learning for predictive modelling, and comprehensive channel attribution analysis. Key findings reveal five distinct customer segments with CLV prediction models achieving $R^2 = 0.874$ and churn prediction models with 89.1% accuracy. Digital marketing analysis demonstrates ROI variations from 2.1:1 to 5.1:1 across channels, while AI-driven personalization yields 23.4% conversion rate improvements. The research provides empirically validated frameworks for customer segmentation, lifetime value prediction, and personalization optimization with immediate applicability for e-commerce practitioners.

Index Terms—E-commerce analytics, customer lifetime value, machine learning, digital marketing, personalization, customer segmentation