

An Autonomous Institution under VTU, Approved by AICTE
Accredited by NBA(CSE & ECE), NAAC with A+ & QS I-GAUGE(GOLD)
No.14, Raghuvanahalli, Kanakapura Road, Bengaluru - 560109

Department of Computer and Communication Engineering



Report for Skill Development Program using PYTHON

Date of conduction: 18nd August t-23th August 2025

Venue: NB-307, KSIT

Time: 09:45 AM to 4:00 PM

Duration: 6 Days

Expert Details – with photo

Resource Person:

Name: Sanjay S. C.

Designation: Master Trainer

Organization: EduNet

Place: Bangalore



Professional Profile – Sanjay S. C.

Master Trainer, with 15+ Years of experience in Academic and Teaching, I combine strong instructional skills with technical expertise in my current role, currently pursuing M. Tech in Data Science and Machine Learning at PES University. I have mentored Students in Python, MySQL and Tableau. I dedicated to training students and professionals in Data Science and Analytics while staying actively updated with the latest technological advancements.

Areas of Specialization

- Machine Learning
- Deep learning
- Tableau
- Statistics, Time Series Forecasting
- Python
- Databases – SQL

Projects Mentored

- Dynamic Price Prediction of Airlines using Random Forest Regressor.
- Productivity Prediction of Garment Employees using Hypothesis Testing.
- Blue Bikes project using Tableau.
- Fake vs Real image detection using Deep Learning Techniques
- Tesla Car & Lithium Battery Case Study using Tableau
- Employee Attrition using different ML algorithms

Professional Certification

- Machine Learning Course by UdeMy.

Notable Highlights

- Was a Lecturer at Polytechnic Colleges and an Assistant Professor at an Engineering Colleges and mentored for more than 7000 students.

The workshop was started at 9:45 AM with an inauguration program

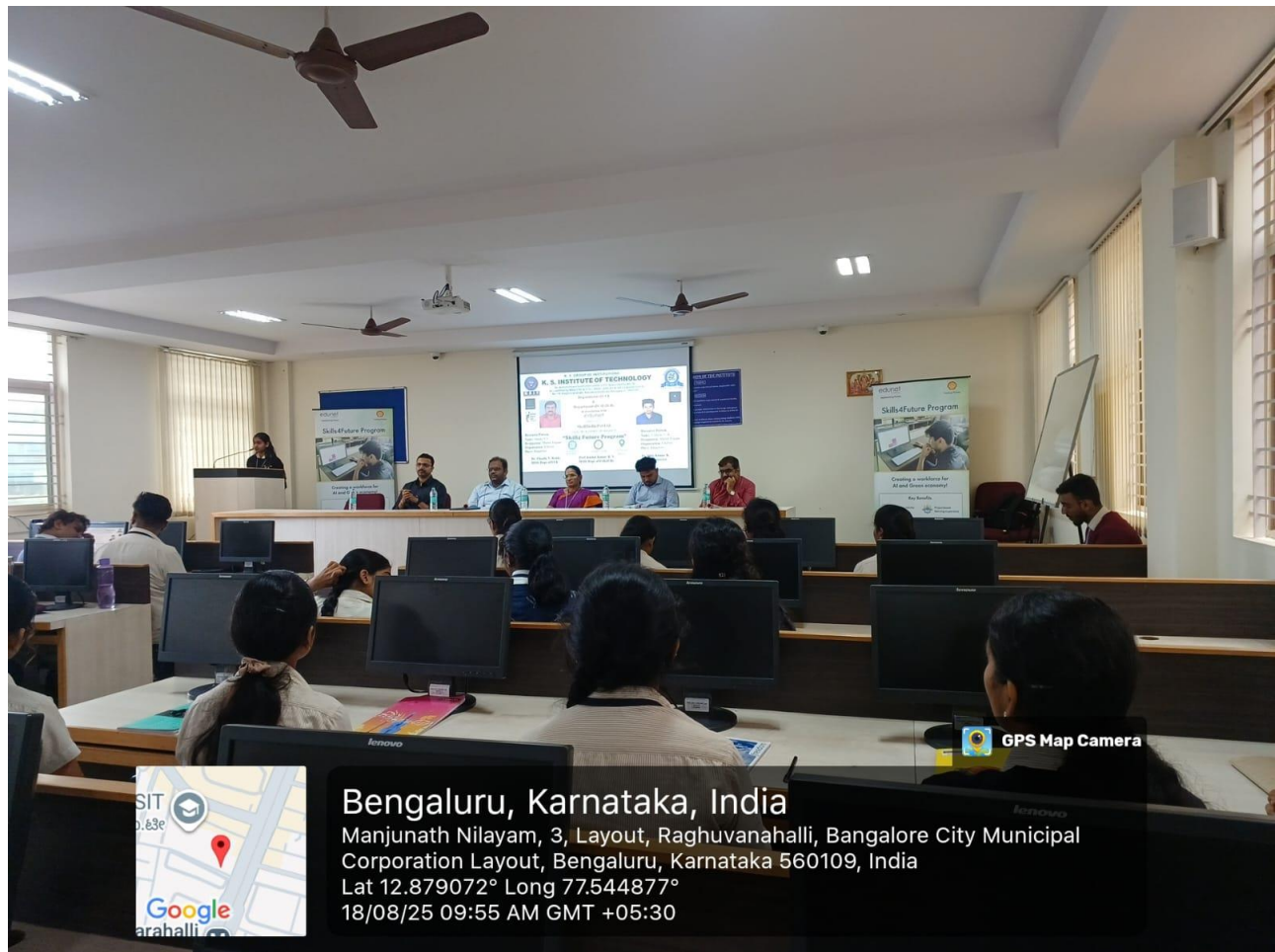


Fig 1: Inaugural function

Workshop Syllabus covered: Skill Development using Python

Module - 1 Foundation of Green Skilling, Sustainability and AI Contributions

Chapter Green Skilling and Sustainability

Environmental Awareness and Literacy

Importance of Environmental Awareness

- Informed Decision-Making
- Sense of Responsibility
- Empowerment for Action
- Enhanced Quality of Life

Ecological Footprint and Carbon Footprint Education

- Ecological Footprint
- Carbon Footprint

Measuring and Calculating Footprints

- Ecological Footprint Calculator
- Carbon Trust's Carbon Calculator
- WWF Carbon Footprint Calculator

Components of Environmental Literacy

- Strategies for Enhancing Environmental Awareness
- Global Environmental Agreements and Policies
- Sustainable Practices and Resource Management

Types of Sustainability

- Environmental Sustainability
- Economic Sustainability
- Social Sustainability

How to Apply the Three Pillars of Sustainability

- Sustainable Practices for Resource Management
- Energy Conservation and Efficiency
- Water Conservation and Management
- Waste Management and Recycling
- Sustainable Agriculture and Land Use
- Sustainable Supply Chain Management
- Sustainable Urban Planning and Development
- Behavioral and Cultural Change for Sustainability

Green Technologies and Innovation

Green Jobs: A Growing Trend

Government and Institutional Support

Examples of Government Support

Role of Education and Training Institutions

Role of Education and Training Institutions (Contd.)

CHAPTER -1

Green Skilling and Sustainability

Environmental Awareness and Literacy

- Ecological Footprint and Carbon Footprint Education
- Measuring and Calculating Footprints

Components of Environmental Literacy

- Strategies for Enhancing Environmental Awareness
- Global Environmental Agreements and Policies
- Sustainable Practices and Resource Management

Types of Sustainability

- How to Apply the Three Pillars of Sustainability
- Sustainable Practices for Resource Management
- Energy Conservation and Efficiency

Water Conservation and Management

- Waste Management and Recycling

Sustainable Agriculture and Land Use

- Sustainable Supply Chain Management
- Sustainable Urban Planning and Development
- Behavioral and Cultural Change for Sustainability

Water Conservation and Management

- Waste Management and Recycling
- Sustainable Agriculture and Land Use
- Sustainable Supply Chain Management
- Sustainable Urban Planning and Development

Behavioral and Cultural Change for Sustainability

Government and Institutional Support

Examples of Government Support

CHAPTER -2

Sustainability and Artificial intelligence Contributions

Sustainability and AI

Sustainable Agriculture

Conservation and Management

Benefits of Sustainable Agriculture

Water Conservation and Management

Waste Management

Circular Economy

Benefits of Waste Management and Circular Economy

Sustainable Urban Planning

Smart Cities

Benefits of Sustainable Urban Planning and Smart Cities etc.,

MODULE- 2

Python Programming for Green Skilling and Sustainability

Chapter 1 Introduction to Python Programming

Chapter 2 Python Syntax and Fundamentals

Chapter 3 Object-Oriented Programming System

Chapter 4 Data Manipulation and Analysis

Chapter 5 Data Visualization

MODULE 3 MACHINE LEARNING

Chapter 1 Introduction to Machine Learning

- Overview of AI and ML

- Overview of AI and ML Type of AI

- Overview of AI and ML Functionality-Based Types of Artificial Intelligence

- Overview of AI and ML AI Concepts

- Overview of AI and ML History of AI

- Overview of AI and ML Application of AI

- Overview of AI and ML Jobs Opportunities of AI-ML

Overview of AI and ML Jobs Opportunities of AI-ML - Skill Requirements

AI-ML Importance of Sustainability Optimizing Energy Consumption

AI-ML Importance of Sustainability Improving Agricultural Practices

AI-ML Importance of Sustainability Supporting Climate Change Mitigation

AI-ML Importance of Sustainability Enhancing Resource Management

AI-ML Importance of Sustainability Promoting Sustainable Urban Development

AI-ML Importance of Sustainability Advancing Environmental Conservation

Types of Machine Learning

Machine Learning Workflow

Machine Learning Python Package (Scikit-Learn) Installation and Setup

Machine Learning Python Package (Scikit-Learn) Data Preparation

Machine Learning Python Package (Scikit-Learn) Data Splitting

Machine Learning Python Package (Scikit-Learn) Data Preprocessing

Machine Learning Python Package (Scikit-Learn) Model Selection

Machine Learning Python Package (Scikit-Learn) Hyperparameter Tuning

Machine Learning Python Package (Scikit-Learn) Model Saving and Deployment

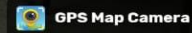
WORKSHOP PHOTOS:





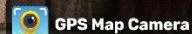
Bengaluru, Karnataka, India

14, Kanakapura Main Rd, Raghuvanahalli, Bangalore City Municipal Corporation Layout, Bengaluru, Karnataka 560109, India
Lat 12.878903° Long 77.544606°
20/08/25 10:23 AM GMT +05:30



Bengaluru, Karnataka, India

Manjunath Nilayam, 3, Layout, Raghuvanahalli, Bangalore City Municipal Corporation Layout, Bengaluru, Karnataka 560109, India
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Objectives / Key Points:

1. To enhance students' technical and professional skills.
2. To provide practical knowledge and hands-on experience.
3. To improve problem-solving and critical thinking abilities.
4. To bridge the gap between academic learning and industry requirements.
5. To promote teamwork, communication, and leadership skills.
6. To prepare participants for career opportunities and entrepreneurship.
7. To develop adaptability for modern tools, technologies, and methods.

Participant details:

No. of participants in total: **56**

Faculty – Shashikala H. C. Asst Professor

Program Outcomes (POs)

<ul style="list-style-type: none">• PO1: Engineering/Technical Knowledge• PO2: Problem Analysis• PO3: Design/Development of Solutions• PO4: Conduct Investigations of Complex Problems• PO5: Modern Tool Usage• PO6: Professional Skills / Engineer & Society	<ul style="list-style-type: none">• PO7: Environment & Sustainability• PO8: Ethics• PO9: Individual & Team Work• PO10: Communication• PO11: Project Management & Finance• PO12: Life-long Learning
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Events Outcomes:

EO1: Participants gained practical exposure to real-world projects.

EO2: Improved confidence in technical and soft skills.

EO3: Enhanced employability and career readiness.

PSO1: To understand and apply the concepts to design and develop solutions in Computer and communication Engineering.

PSO2: To use the inculcated experiential learning for research and develop inventive Solutions for social benefit while ensuring security with moral values and ethics.


Attachments:


1. Communication and workshop of Internet of Things.
2. Resource person Profile
3. Evaluation and Feedback.


CO/PO&PSO mapping -CCE

CO/PO& PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
EO1	3	3	2	2	3	2	-	-	2	2	2	3	2	3
EO2	2	2	-	-	2	3	-	2	3	3	2	3	3	2
EO3	2	2	2	-	2	3	-	2	3	3	3	3	2	2
	2.3	2.3	1.33	0.67	2.3	2.6	-	1.33	2.6	2.7	2.3	3.0	2.3	2.3

3 = Strongly Correlated
 2 = Moderately Correlated
 1 = Slightly Correlated
 - = Not Applicable


 Shashikala H. C.
 Event Coordinator


 Dr. Chanda V. Reddy
 Head - CCE
 Head of the Department
 Dept. of Computers and Communication Engg.
 K. S. Institute of Technology
 Bengaluru - 560 109.


 Dr. Dilip Kumar K
 Principal, KSIT