

FINAL REPORT

BIT (SPOKE) in Association with DST STUTI-TP-37

A Seven Days Training Program on Machine learning algorithms and soft computing techniques for Learning Mathematics

Venue: Bannari Amman Institute of Technology, Sathyamangalam, Tamil Nadu

Date: 8th – 14th August, 2023

Day 1- 08.08.2023

At 8.30 AM, the program started with the registration process of candidates and also distributions of welcome kit to the participants. Then the program started with the invocation song followed by the inauguration through the key guest of honours. Then the theory session has been handled by Prof. S. Nandhini of BIT on Master mathematics using python which was held from 9.00 AM to 11:00 AM. From 11:15 AM to 1:15 PM, hands on training session on Python were given by her. After the lunch break, from 1.45 to 5:45 PM, hands on experience on Numpy, sympy pandas and matplotlib has been given by Dr P Purusothaman, of BIT.

Day 2 – 09.08.2023

From 8.30 AM to 10.30 AM, a theory session on soft computing techniques for EEG signal processing was handled by Dr. R Harikumar of BIT followed by a practical session on the same by him from 10.45 AM to 12:45 PM. From 1:15 PM to 3:15 PM, a theory session on Dynamical systems using Mathematica was done by Dr Mohammed Javed Idrisi (Ethopia) . From 3:30 PM to 5:30 PM, Hands on experience was demonstrated using Mathematica by Dr Mohammed Javed Idrisi (Ethopia).

Day 3 – 10.08.2023

From 8.30 AM to 10.30 AM, a theory session on Particle swarm optimization techniques for power systems were delivered by Dr. K. Rajalakshmi of BIT followed by the

practical session on Flower pollination algorithm by her from 10.45 AM to 12:45 PM. From 1:15 PM to 3:15 PM, a theory session on ECG cardiac Arrhythmias classification using discrete wavelet transform was handled by Dr.C. Ganesh Babu of BIT. From 3:30 PM to 5:30 PM, Hands on experience on the same topic was given by him.

Day 4 – 11.08.2023

From 8.30 AM to 10.30 AM, a theory session on Economic circularity through Mathematical intervention of natural sciences was delivered by Dr. R. Balakrishna raja of BIT followed by the practical session through bio tools by him from 10.45 AM to 12:45 PM. From 1:15 PM to 05.30 PM, Hands on experience was given on bio info tools and techniques by Dr.T. Muthukumar of BIT.

Day 5 – 12.08.2023

From 8.30 AM to 10.30 AM, a theory session on calculus and statistical techniques in Data analytics was handled by Ms Reena Devi (TCS), team leader, followed by the practical session on Data analytics by her from 10.45 AM to 12:45 PM. From 1:15 PM to 3:15 PM, a theory session on Mathematical Modeling of Ecology by Dr.C.Srinivasarotha (Amritha University, Amarvathi). From 3:30 PM to 5:30 PM, Hands on experience through python programming was given by him.

Day 6 – 13.08.2023

From 8.30 AM to 10.30 AM, a theory session on GPS data for feeding fuzzy-based system for road traffic congestion quantification was delivered by Dr.M. Parimala of BIT followed by the hands-on training in python for fuzzy database by her from 10.45 AM to 12:45 PM. From 1:15 PM to 3:15 PM, a theory session on Introduction to Fractional differential equation and its applications via SAGEMATH was given by Dr. V Parthiban (VIT, Chennai) and from 3:30 PM to 5:30 PM, hands on experience was demonstrated through SAGEMATH by him.

Day 7 – 14.08.2023

From 8.30 AM to 10.30 AM, a theory session on Bridging different perspectives of physiology and Mathematics was handled by Dr. K. Hemalatha (BIT) followed by a practical session on R programming by her from 10.45 AM to 12:45 PM. From 1:15 PM to 3:15 PM, a theory session on Applications of Fuzzy logic in image processing using MATLAB was demonstrated by Dr.C. Yuvapriya (Vellalar college of Arts and science for women) and from 3:30 PM to 4:30 PM, hands on experience on MATLAB was given by her.

And from 04.30 PM to 05.30 PM, valedictory function followed by the distribution of certificates has been done.