Avinashilingam Institute for Home Science and Higher Education for Women
Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD
Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC
Coimbatore - 641043, Tamil Nadu, India

Report

Five-day Programme on

"AI Learning Summer School for Young Innovators"

On 13.05.2024-17.05.2024

Organized by

AAI Start-up Programme under

Centre for Machine Learning and Intelligence (CMLI)
(ISO/IEC 20000-1:2018)

Invitation


AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN
Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD [Now MoE]
Re-accredited with an 'A++' Grade by NAAC CGPA 3.65/4 ,Category I BY UGC
COIMBATORE – 641 043, TAMIL NADU, INDIA
5 Day Programme on
"AI Learning SUMMER CAMP for Young Innovators!"
13.05.2024-17.05.2024
Organized by
AAI START-UP PROGRAMME
UNDER
CENTRE FOR MACHINE LEARNING AND INTELLIGENCE
10:00 AM - 04:30 PM
Eligible Participants
VII-XII Standard
Activity Based Learning
Registration Fee:Rs.2,000/-
To Register Click Here
Please bring your own Laptop

Agenda

Programme Schedule

Day 1: "Exploring : AI based Innovative Tools and Technologies for Education"

Day 2: "Creativity: Dive into the World of 3D Printing"

Day 3: "Futuristic: Harnessing Farm Intelligence in Agriculture and Sensor Interfacing "

Day 4: "Learning: The Language Assistant Lanquil"

Day 5: "Developing: Programming with Blockly"

Get Exciting Medals!

"JOIN THE LEARNING ADVENTURE: FUN-FILLED LEARNING AWAITS!"

For More Details Contact
Dr.M.Krishnaveni,
Faculty In-Charge, AAI Startup Programme
Contact Number:9442571571

Day 1-Introduction to AI Tools used for Education

Objective of this workshop

The main objective of this summer school is to prepare the school students with a deep understanding and practical skills for AI based Tools and Technologies efficiently. The purpose of this summer school is to prepare young minds accelerate for the upcoming future of AI. The total number of participants of this workshop was 16 and the participants belongs to various standards from VI-XII standard.

Prayer:

The inaugural session started with blessings of God Almighty, Dr. T. S. Avinashilingam Ayya Avargal, Dr. Rajaammal P. Devadas Amma Avargal with a prayer song.

Welcome Address:

Dr. P. Subashini, Coordinator, CMLI, Avinashilingam Institute for Home Science and Higher Education for Women, welcomed the gathering with her enlightening thoughts. She addressed the importance of the AI and its benefits and how it could be useful at the school level and higher education level. Also, she graciously introduced the team of CMLI, Dr.R.Janani, Ms.V.Narmadha,Ms.C.Sandiya, Ms.Aiswarya(Research Schloar) and Ms. Jayashree Ganeshkumar (Research Scholar) and she also expressed their expertise in their own discipline .

Fig 1. Welcome Address by Coordinator

Session 1:

Followed by Ms.V. Narmadha took over the session and covered the following topics.

- **Introduction to AI Tools for Education**

  In this topic, she explained what is AI, the need for AI, and how AI tools is used for education. Also, she explained, tools like AutoDraw, Quizlet, Microsoft Math Solver, Photo Math and designing tools using crayon AI, Openart to generate digital images from text.

AutoDraw

AutoDraw is a web-based drawing tool developed by Google Creative Lab that uses machine learning to help users create polished drawings from rough sketches. The tool is designed to be user-friendly and accessible, allowing anyone to create visually appealing drawings quickly and easily. She explained key features and importance of Auto draw in education for drawing and illustration purposes.

Quizlet

Quizlet is an online learning tool that allows students and educators to create, share, and study various learning materials, such as flashcards, quizzes, and games. It's designed to facilitate learning and memorization through interactive and engaging methods.

Microsoft Math Solver

Microsoft Math Solver is an AI-powered tool designed to help students and learners solve mathematical problems. It offers step-by-step explanations and solutions, making it a valuable resource for understanding and learning various math concepts.

Crayon AI

Crayon AI is an AI-powered tool designed to generate images from text descriptions, leveraging advanced deep learning models to interpret and visualize text inputs. This tool allows users to create unique images simply by describing what they want to see, making it a valuable resource for artists, designers, and anyone looking to generate visual content from textual descriptions

Fig 2: Introduction to Tools

Finally, she gave a step-by-step introduction about tools.

Session 2: Hands-on Session

In this interactive session, participants actively engaged in the hands on working for the tools explained. The hands-on approach allowed participants to gain more practical knowledge in exploring the platform and implementing key functionalities. In this session, participants actively raised their questions to clarify doubts about the tools.

Day 2: Introduction to 3D Printing

Session 1:

Ms. V.Narmadha addressed the importance of the 3D Printing, its benefits, and importance of 3D Printing in near Future. She encouraged the students to actively participate and covered the following topics. Introduction to 3D Printing: In this topic, she explained about the history of 3D Printing technologies and evolution. Also, she explained the classification of modelling techniques of 3D Printing such as Subtractive, Additive and Formative. Added to that she also taught about working Principle mechanism of modelling. She briefly explained about the 3D Printing types such as Fused Deposition Modelling, Stereo Lithography and Selective laser sintering. She explained about the types of filaments and applications for each filament, such as PETG, Nylon, PLA, ABS, TPU. Trainer elaborated the convenience and advantages of using 3D Printed hearts for surgeons and 3D Printed building models for civil engineers. The trainer explained job opportunities 3D Printing field. The orator also showed real time case studies of Applications of 3D Printing in and around the world. For example, how 3D printing is used in Covid19 scenario and how it's used for architectural purposes. The trainer finished the session I with the saying of "***Technology is here to stay. The future of technology lies in the***

humanization We are seeing the advent of a new generation of machines. 3D Printing and robotics will automate many industries. I see an opportunity"- Hon' PM Shri Narendra Modi.

Session 2:

After the theory session the participants were encouraged to design three 3D Printed models such as personalized Keychain, Idol and pen organizer for the same they were designing in TinkerCAD Designing software and Flashprint 5.1 slicing software. In this interactive session, participants actively engaged in the practical creation of a 3D modelling items according to resource person instruction and guidance. The hands-on approach allowed participants to gain more practical knowledge in exploring the software and implementing key functionalities. In this session, participants actively raised their questions to clarify doubts about the TinkerCAD and Flashprint software. Participants showed a deep interest in understanding the methodologies of 3D printing. After successful designing and slicing participants printed their own keychain. The resource person provided a clear and comprehensive responses, addressing each query with expertise. The collaborative atmosphere encouraged the participants to gain familiarity with 3D Printing and promoting a helpful environment for knowledge sharing and learning.

Fig 2:Hands on working on 3D printing

Day 3: Introduction to Embedded Systems

Session 1 & 2

The overall goal of this session is to explain participants about embedded systems and software used. Arduino IDE is an open-source free platform or beginners to work with embedded systems. Additionally, the workshop gave a clear insight about Embedded systems and its usage in this smart world. After the introductory speech, the trainer warmly started the sessions with warm presentations which elaborated all about the basics of Embedded Systems, Sensors and its types and how to interface each sensor to the board explained the need. After lunch break students divided into 4 groups. They were 5 experiments to work out, where they picked up each program for them and had a brainstorming session for the students to provide brief understanding of each prototype experiments, sensors and their working. The students have provided with the components which is needed for particular experiment. They started to

connect on themselves. Initially, some faced some difficulties to connect components some tried to connect on their own without any guide or references. After sometimes, organizing team has issued the proper guidelines to work with each experiment. With the help of the guidelines, they completed successfully. The trainer motivated the students to modify and extend their prototype experiment to real time products by adding some more conditions and features in it.

Fig 4: Hands-on Session on Embedded Systems

Day 4-Lanquil AI software

Dr.P. Subashini, coordinator, CMLI has given a brief introduction about Lanquil AI tool for learning English language. She also elaborated the importance of the English language in higher studies and competitive exams like IELTS and TOFFEL. This lanquil tool will greatly help the students to improvise the reading, writing, listening and speaking skills. After the introduction speech she handed over the session to Ms. Sandiya, Technical Assistant,CMLI. Ms.Sandiya explained about the importance and benefits of Lanquil. The user access credentials for each participant have been created and distributed to the participant. The orator instructed the participants to login their own account and practice the exercise which is given to improve the language proficiency.

Fig 5: Hands on working with Lanquil

Day 5-Block Based Programming language

Session 1 & 2

Blockly is a web-based, visual programming language and editor developed by Google. It allows users to create programs by manipulating graphical code blocks rather than writing code textually. This makes it an excellent tool for beginners, especially students, to learn the fundamentals of programming in an intuitive and engaging way. Initially the fundamentals of blockly and creating a simple application is been thought to the participants. Later on, an user manual of creating mobile applications like Calculator, UserLogin, String Functions and Math Functions has been distributed for the each participant. The participants were eager to work the experiments. The trainer motivated the students to modify and extend their experiment by adding some more conditions and features in it.

Fig 6: participants working with blockly

Outdoor activity

After the session commenced, participants they were allowed to play some outdoor activities like volleyball, throwball, football and musical chair.

Vote of thanks and valedictory

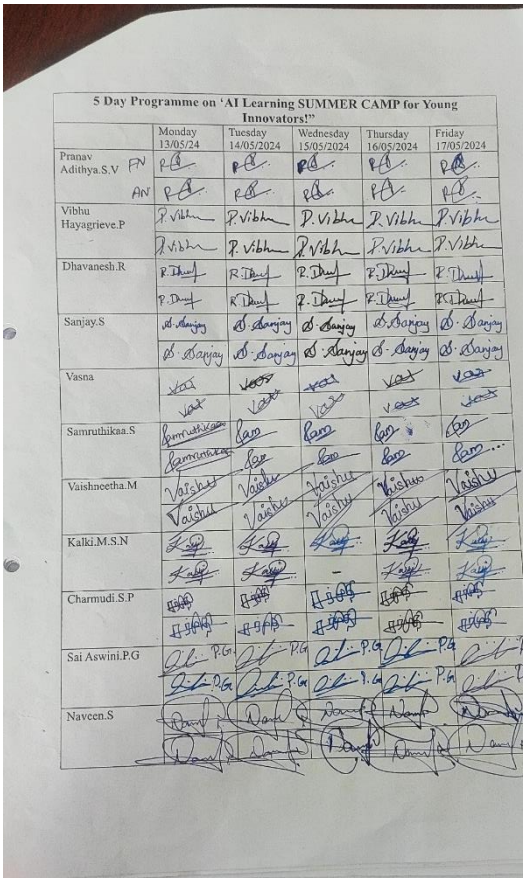
Finally, Dr. P.Subashini ,Coordinator,CMLI Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, extended a gracious vote of thanks. Along with coordinator, co-cordinator joined to distribute certificates and shield to the participants.

Fig 6: Certificate distribution by Dr. Co. ordinator and Co-coordinator

Overall, this workshop was very useful for the participants to create a digital repository and add their own items in this repository.

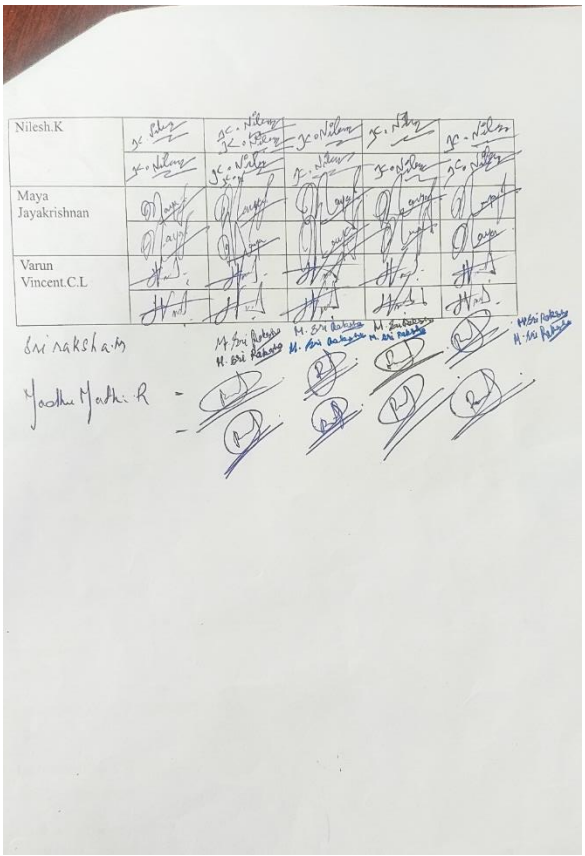
Fig 7: Team of Summer school

Participation



5 Day Programme on 'AI Learning SUMMER CAMP for Young Innovators!"

	Monday 13/05/24	Tuesday 14/05/2024	Wednesday 15/05/2024	Thursday 16/05/2024	Friday 17/05/2024
Pranav Adithya.S.V	FN				
	AN				
Vibhu Hayagrieve.P					
Dhavanesh.R					
Sanjay.S					
Vasna					
Samruthikaa.S					
Vaishneetha.M					
Kalki.M.S.N					
Charmudi.S.P					
Sai Aswini.P.G					
Naveen.S					



Nilesh.K					
Maya Jayakrishnan					
Varun Vincent.C.L					