



MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE

363, Arcot Road, Kodambakkam, Chennai – 24
Approved by AICTE & Affiliated to Anna University
email Id: principal@msec.edu.in
Website : www.msec.edu.in

Criteria 4.1.1

The Institution has adequate infrastructure and
physical facilities for teaching- learning viz.,
classrooms, laboratories, computing equipment etc.

**EXTENDED FACILITIES IN THE LABORATORIES FOR
CONDUCTING PROJECT AND RESEARCH RELATED ACTIVITIES**

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CHENNAI-600 024



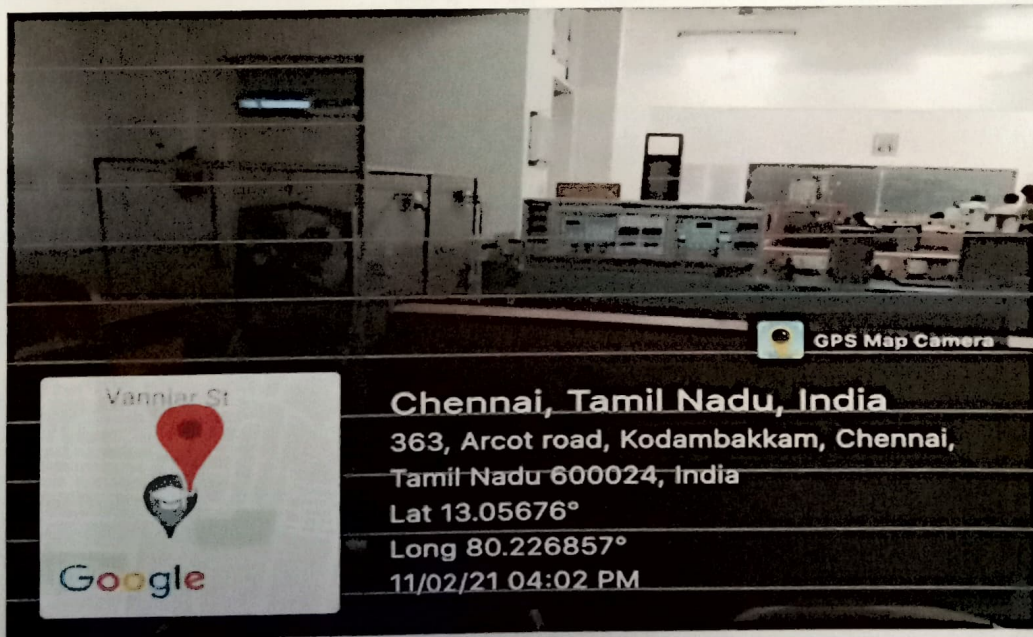
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1. Renewable Energy Systems Laboratory (EEE Department)

Renewable Energy Systems Laboratory is equipped with “**Grid Type Inverter**” which is connected to 100 kW solar panel. This facility allows the students and faculty members to test their renewable energy related projects with real-time distribution system. The following projects were completed and tested using the above facility:

Sl. No.	Name of the Equipment/Facility	Details of Project
1	Grid Type Inverter	A Smart PV Panel using MOSFET based switching matrices by Deepak Anand N and Mohammed Nadheem Fazil MR, under the guidance of Mr. S. B. Sivasubramaniyan, Assistant Professor-EEE
2	Grid Type Inverter	Implementation of a Digital Substation using IEC 61850 Station Bus by Brian Samuel Alfred, Indhar B and Ponn Ashok R, under the guidance of Mr. S. B. Sivasubramaniyan, Assistant Professor-EEE



EEE - RENEWABLE ENERGY SYSTEMS LABORATORY

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EEE – SMART PANEL PROJECT



EEE – SMART PANEL PROJECT

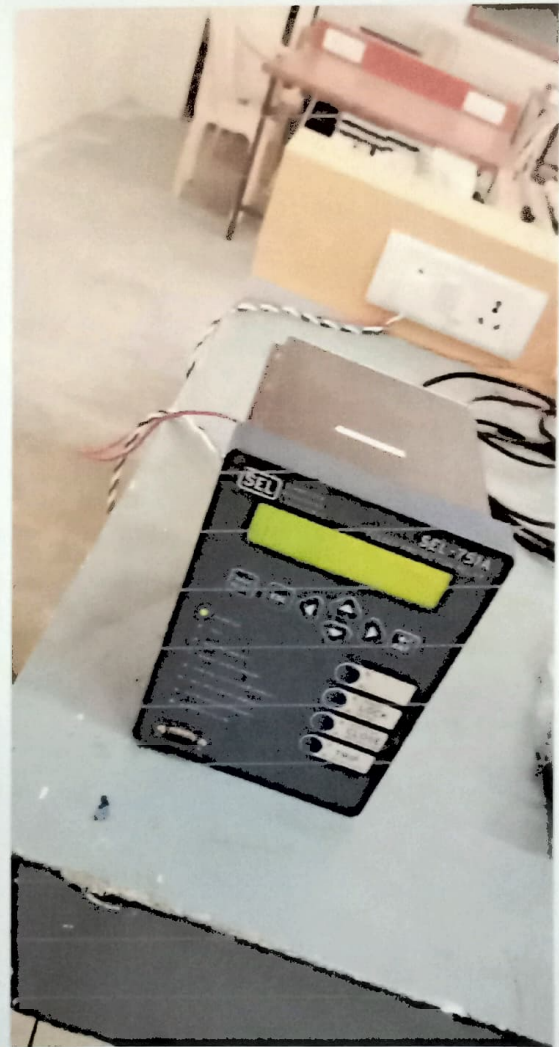
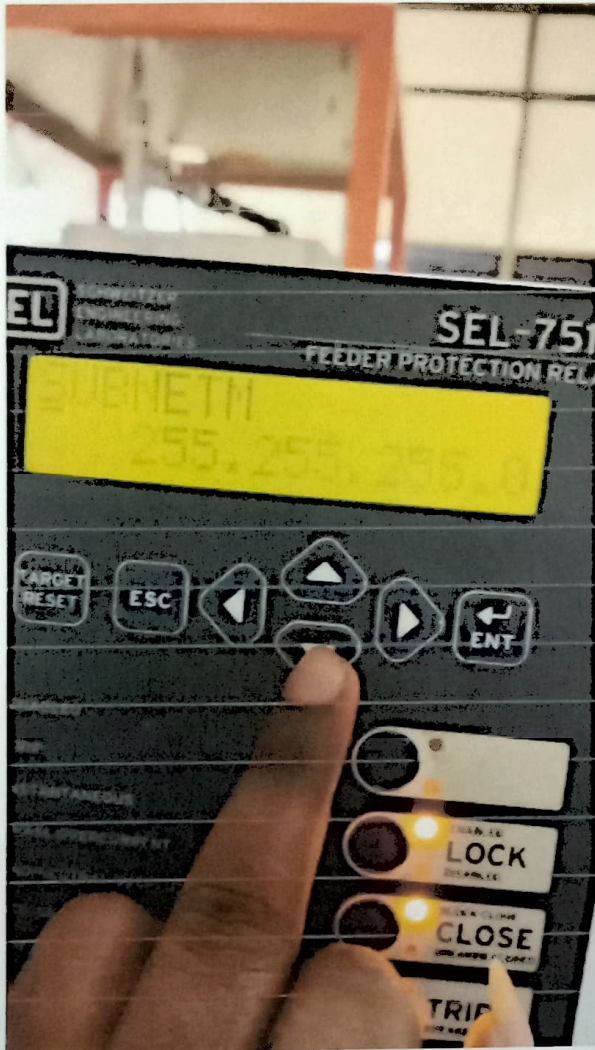
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EEE - DIGITAL SUBSTATION PROJECT

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A SMART PV PANEL USING MOSFET BASED SWITCHING MATRICES

A PROJECT REPORT

Submitted by

DEEPAK ANAND N

311518105007

MOHAMMED NADHEEM FAZIL MR

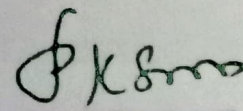
311518105023

in partial fulfilment for the award of the degree
of

BACHELOR OF ENGINEERING
In

ELECTRICAL AND ELECTRONICS ENGINEERING MEENAKSHI
SUNDARARAJAN ENGINEERING COLLEGE
KODAMBAKKAM, CHENNAI-600 024
JUNE 2022

ANNA UNIVERSITY: CHENNAI- 600 025


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IMPLEMENTATION OF A DIGITAL SUBSTATION USING IEC 61850 STATION BUS

A PROJECT REPORT

Submitted by

BRIAN SAMULL ALFRED	311517105009
INDIAR B	311517105018
PONN ASHOK R	311517105034

in partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

IN

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MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE

KODAMBAKKAM CHENNAI-600 024

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APRIL 2021

PKS



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2. Strength of Materials Laboratory (Civil Department)

The Strength of Materials Laboratory is equipped with "Loading Frame (capacity 500 KN)" which is used to test the strength of concrete specimens. This facility is used by the students to carry out their final year projects. Details of the project are given below:

Sl. No.	Name of the Equipment/Facility	Details of Project
1	Loading Frame (capacity 500 KN)	Experimental study on Ferrocement Brick Composite Beam done by Levetha L, Trinisha Pragashini Fernando & Varshaa R under the guidance of Mr. N. Ravikumar, Assistant Professor-Civil.



CIVIL – STRENGTH OF MATERIALS LABORATORY

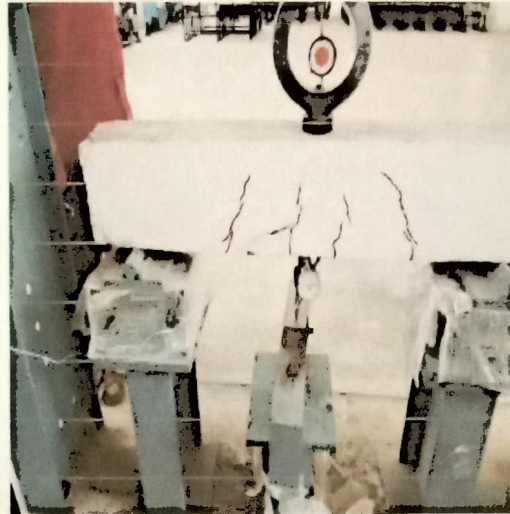
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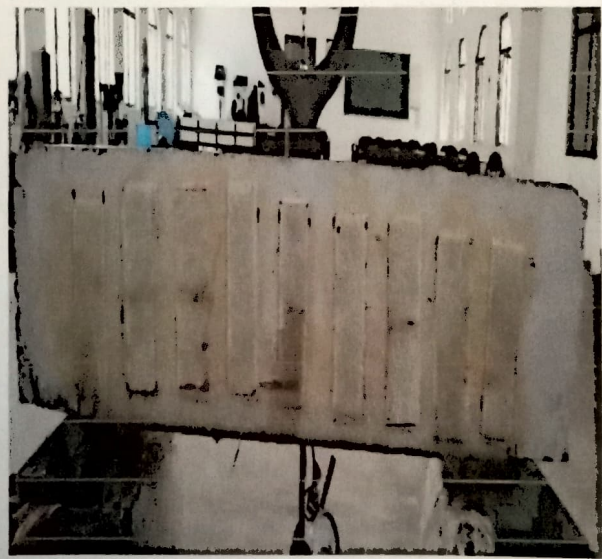
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BEAM PRELOADED FOR RETROFITTING



U SHAPE WARPING



GFRP AS STRIPS

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EXPERIMENTAL STUDY ON FERROCEMENT- BRICK COMPOSITE BEAM

A PROJECT REPORT

Submitted by

LEVETHA.L (311518103013)
TRINISHA PRAGASHINI FERNANDO (311518103037)
VARSHAA.R (311518103038)

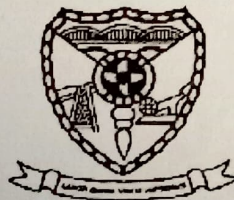
in partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

in

CIVIL ENGINEERING

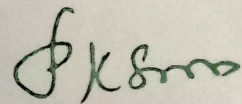


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JUNE 2022


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3. Hydraulic Engineering Laboratory (Civil Department)

The Hydraulic Engineering Laboratory is equipped with "Hydraulic Flume" which is used to measure the flow characteristics of hydraulic structures. This facility is used by the students to carry out their final year projects. Details of the project are given below:

Sl. No.	Name of the Equipment/Facility	Details of Project
1	Hydraulic Flume (rectangular channel of size 4.5 x 0.25 x 0.35 m; varying slope $\pm 1/25$; 2HP centrifugal pump)	Experimental study of bridge pier shapes to minimize local scour done by S. Bharath Kumar, Jeremiah Thong & V. Vignesh under the guidance of Ms. U. Malini, Assistant Professor-Civil.
2		Experimental Analysis of performance of Piano key weirs done by B. Eisha Yokinya, R. Sathvika & A.S. Shalini under the guidance of Dr. P.K. Suresh, Professor-Civil.



CIVIL – HYDRAULIC ENGINEERING LABORATORY

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Hydraulic Flume

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EXPERIMENTAL ANALYSIS OF PERFORMANCE OF PIANO KEY WEIRS

A PROJECT REPORT

submitted by

B.EISHA YOKINYA(311518103009)

R.SATHVIKA(311518103030)

A.S.SHALINI(311518103032)

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING
IN
CIVIL ENGINEERING



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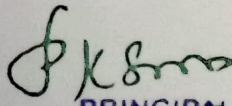
4. Mechatronics Laboratory (Mechanical Department)

Mechatronics laboratory is equipped with "3D Printing machine" which is a new and innovative method used to manufacture solid objects. It allows the user to make complicated 3D shapes using a method of manufacturing where a part is made by adding layer after layer (Additive Manufacturing) of a heated material that cools and solidifies almost instantly. The 3D shapes are initially created on the computer using solid modelling software. In order to have a high functioning 3D printer, the forces need to be accounted for in the design, so that they don't affect the quality of the produced part. The following project report explains and analyses the problems identified in the existing 3D printer and in addition it also explains how these problems are overcome using the skills in mechanical engineering.

Sl. No.	Name of the Equipment/Facility	Details of Project
1	Z-axis 3-D Printer	Design project on "Redesigning and Fabrication of extruder, Z-axis drive and their structural supports of 3D A printer" done by M.S.Amrish, V. Chaithanya Raam & Vikarath Balaji under the guidance of Mr. P. Jayaganesh.



MECHANICAL – MECHATRONICS LABORATORY

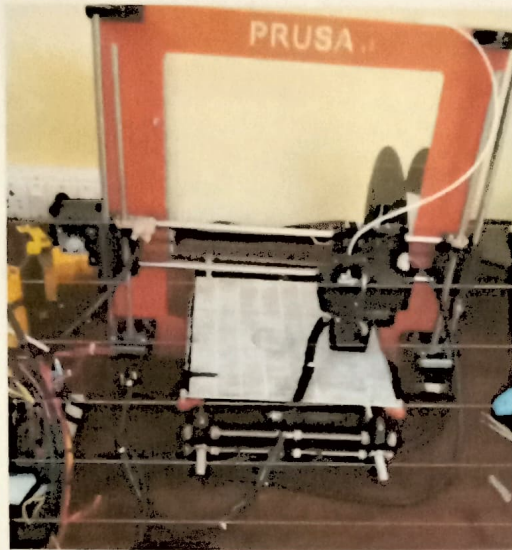

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3D Printed Models

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ME6612 - DESIGN AND FABRICATION PROJECT

REDESIGNING AND FABRICATION OF EXTRUDER, Z AXIS
DRIVE AND THEIR STRUCTURAL SUPPORTS OF 3D A PRINTER

A PROJECT REPORT

Submitted by

M.S.AMRISH

V. CHAITHANYA RAAM

V.VIKRANTH BALAJI

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

MECHANICAL ENGINEERING

MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE,

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APRIL 2018

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5. CAM Laboratory (Mechanical Department)

CAM laboratory is equipped with “wire-cut EDM” which is used in mold and dies manufacturing processes, particularly for extrusion dies and blanking punches. EDM can be used in everything from prototypes to full production runs, and is most often used to manufacture metal components and tools. The following project report explains and analyzes the problems identified in the existing wire –cut EDM and in addition it also explains how these problems are overcome using the skills in mechanical engineering.

Sl. No.	Name of the Equipment/Facility	Details of Project
1	Wire Cut Electric Discharge Machine	Final year project on “Study and improvisation of surface finish in EDM wire cut” done by A.Rahul, G.Karthick & B.Manikandan under the guidance of Dr. K. Balasubramanian.



MECHANICAL – COMPUTER AIDED MACHINES LABORATORY

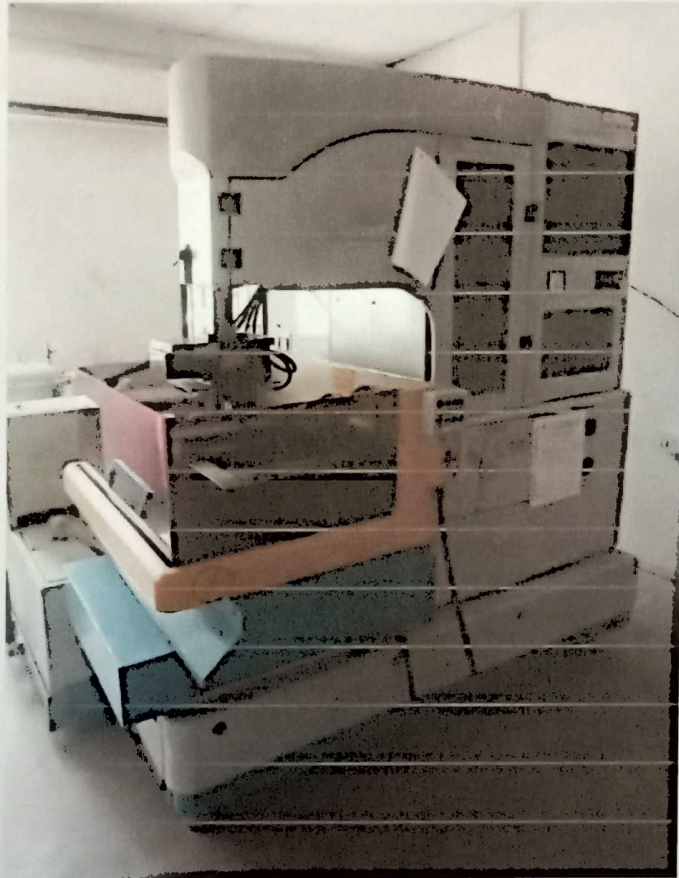
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Wire-cut EDM

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ME8811 PROJECT WORK

STUDY AND IMPROVISATION OF SURFACE FINISH IN
EDM WIRE CUT

A PROJECT REPORT

Submitted By

A.RAHUL

G.KARTHICK

B. MANIKANDAN

In partial fulfillment for the award of the degree

of

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6. Research Laboratory (Mechanical Department)

Research laboratory of Mechanical Department is equipped with "Bio-diesel Blending Kit" which is a new and innovative method used to produce bio-diesel in various ratios. Biodiesel is rarely used in pure form because using pure biodiesel can lead to maintenance and performance issues without certain engine modifications. Therefore, biodiesel is blended with conventional hydrocarbon-based diesel in a certain proportion for use in the market place. The following project reports explain and analyse the problems identified in the existing "Bio-Diesel Blending Kit" and also explains how these problems are overcome using the skills in mechanical engineering.

Sl. No.	Name of the Equipment/Facility	Details of Project
1	Bio-diesel Blending Kit	Final year project on "Performance characteristics of a diesel engine using rice bran oil blends" done by S. Adithya under the guidance of Mr. R. Shanmugam.
2	Bio-diesel Blending Kit	Final year project on "Performance and emission characteristics of CI engine fueled with rice bran bio-diesel" done by J.R.Jagaraj, K.Velmurugan & S.Gokulraman under the guidance of Mr. K. Iyyanar.



Bio-diesel Blending Kit

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ME6811

**PERFORMANCE CHARACTERISTICS OF A DIESEL
ENGINE USING RICE BRAN OIL BLENDS**
A PROJECT REPORT

Submitted by

S ADITHIYA

In partial fulfillment for the award of the degree

of

**BACHELOR OF ENGINEERING IN
MECHANICAL ENGINEERING**

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ANNA UNIVERSITY: CHENNAI 600 025

APRIL 2020

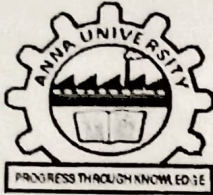
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PERFORMANCE AND EMISSION CHARACTERISTICS OF CI ENGINE A FUELED WITH RICE BRAN BIO-DIESEL

A PROJECT REPORT of

Submitted by

J.R.JAGARAJ 311517114019
K. VELMURUGAN 311517114056
S. GOKULRAMAN 311517114301

*In partial fulfillment for the award of the degree
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COLLEGE CHENNAI- 600024**

**ANNA UNIVERSITY: CHENNAI – 600025
APRIL 2021.**

J.R. Jagaraj



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7. Research Laboratory (CSE Department)

CSE Research laboratory equipped with computing facilities and software such as MatLab, NS2 and Python is utilized by the faculty members pursuing PhD to carry out their research works and the details are given below

Sl. No.	Name of the Equipment/Facility	Details of Project
1	MatLab Software	Research work on "Analysis and Design of Growth Model for breast cancer treatment using FRACTAL SIMULATION" carried out by Mrs. B. Monica Jenefer, HOD-CSE
2	NS2 Software	Research work on "Secure Data Aggregation and Forwarding in Wireless Sensor Network" carried out by Mrs. M.K. Sandhya, Associate Professor.
3	Python Software	Research work on "Natural Language Processing" carried out by Ms. Jerin Mahibaba, Assistant Professor using Python software.

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